

Alcohol, tobacco and cannabis consumption in adolescents from a multicultural population (Burela, Lugo)

Consumo de alcohol, tabaco y cannabis en adolescentes de una población multicultural (Burela, Lugo)

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Abstract

Social inequalities have been associated with morbidity and mortality. Gender, ethnic group and inequalities were studied in an adolescent population to analyze alcohol, tobacco and cannabis consumption. We carried out a cross-sectional study of pupils from high schools in Burela (northern Spain) (n=238). We used the "Factors de Risc en Estudiants de Secundària" questionnaire designed by Agència de Salut Pública de Barcelona. Independent variables: nationality and weekly pocket money. Dependent variables: expectations and consumption of alcohol, tobacco and marihuana. Logistic regression was used.

Participation in the study reached 91%. The proportion of pupils that have tried alcohol on occasion increases with age (27.3%, 47.7%, 75.9%), as with tobacco (1.8%, 7.6%, 17.0%), and cannabis (0%, 3.1%, 7.0%). Higher levels of spending money constitute a risk factor for tasting alcohol (OR=3.01), for high-risk consumption (OR=3.35), for getting drunk (OR=6.45) and for trying marijuana (OR=15.30). Sex and nationality were not shown to be associated with the use of any of these three drugs. The results of our study show that consumption of alcohol, tobacco and cannabis increases with age and with increased spending money. The data do not support the argument that foreign pupils are a risk group for alcohol consumption, so they should not be stigmatized.

Keywords: Adolescents; immigrants; social inequalities; substance use.

Resumen

Las desigualdades en salud en la adolescencia se han asociado a la morbimortalidad de los sujetos. Este estudio pretende evaluar el efecto de género, nacionalidad e inequidades sociales sobre el consumo de alcohol, tabaco y cannabis en adolescentes en un contexto multicultural. Se ha realizado un estudio transversal entre los estudiantes de Educación Secundaria Obligatoria (ESO) de los institutos de Burela (Lugo) (n=238). Se utilizó el cuestionario "Factors de Risc en Estudiants de Secundària" diseñado por la Agència de Salut Pública de Barcelona. Variables independientes: nacionalidad y el dinero disponible semanal. Variables dependientes: expectativas y consumo de alcohol, con consumo de tabaco y marihuana. Se generaron modelos de regresión logística multivariante.

La participación en el estudio alcanzó el 91%. La proporción de alumnos que ha probado el alcohol aumenta con la edad (27,3%, 47,7% y el 75,9%), como ocurre con el tabaco (1,8%, 7,6% y 17%) y el cannabis (0%, 3,1%, 7%). La mayor disponibilidad económica constituye un factor de riesgo para haber probado el alcohol (OR=3,01), para su consumo de riesgo (OR=3,35), para haberse emborrachado (OR=6,45) y para haber probado la marihuana (OR=15,30). Sexo y nacionalidad no han mostrado relación con el consumo de ninguna de estas drogas. Los resultados de nuestro estudio muestran que el consumo de alcohol, tabaco y cannabis aumenta con la edad así como con la mayor disponibilidad económica. Los resultados constatan que los alumnos inmigrantes no constituyen un grupo de riesgo por ello no deben ser estigmatizados.

Palabras clave: Adolescentes; inmigrantes; desigualdades sociales; consumo de sustancias.

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Adolescence is a stage of learning, education and experimentation which greatly determines behavior in adult life. It has been observed that when this crucial period is set in a context of intercultural interaction, health behaviors can change in noticeable ways and become a potential source of negative repercussions on the well-being and future health of our youth (Bousoño et al., 2017; García-Sánchez et al., 2016; González, Espada, Guillén-Riquelme, Secades, & Orgilés, 2016; Meneses et al., 2009).

Within such a context, ethnicity or belonging to an ethnic group is a key element of social and cultural identification (Meneses et al., 2013), which, alongside the social influence of peers or friends, different role models, family and school can have repercussions on substance use (Giró, 2011; Luengo, Villar, Sobral, Romero & Gómez-Fraguela, 2009; Marsiglia, Kulis, Luengo, Nieri & Villar, 2008; Whal & Eitle, 2010). In addition, the influence of the process of acculturation, defined as the exchange of cultural attitudes and behaviors that takes place when people from different socio-cultural environments come into contact (Luengo et al., 2009), should also be noted.

This concept, although traditionally understood as the adoption of the dominant culture, currently tends to be seen in terms of different possible strategies: integration or biculturalism, assimilation, separation or withdrawal, and marginalization or alienation (Luengo et al., 2009). Several publications highlight the influence of this process of identity formation, which could be linked to drug use given that one of the factors associated with such behaviors is that it is reproduced by the peer group (Giró, 2011). It is important to take a global approach to the concept and to advance in the development of scales that address it as the multidimensional and complex process that it is (Fosados et al., 2007).

It is therefore essential to look beyond the strictly personal variables involved in substance use among adolescents. Although the consumption of all drugs seems to have decreased, according to the national survey of drug use in secondary schools the percentage of Spanish youths between 14 and 18 years of age who have tried alcohol currently stands at 78.9%, with tobacco at 38.4% and marijuana at 29.1% (Encuesta sobre Uso de Drogas en Estudiantes de Secundaria [ESTUDES], 2016), levels that remain disturbing. These data make it a priority to address the consumption of these substances in order to find early solutions to problems that may arise from their use.

Social inequalities in the early stages of development are contributing factors to inequalities in adult life, a fact that highlights the importance of systematically recording social determinants in child health studies and during adolescence (Font Ribera et al., 2014). Furthermore, the migration dimension cannot be understood independently of social class and gender (Borrell & Artazcoz, 2008; Malmusi, Borrell & Benach, 2010), and this reality reflects

the need to understand risk behaviors among immigrant adolescents.

The number of studies conducted in Spain aimed at investigating health inequalities among adolescents and taking into account different ethnic groups or cultural differences is scarce (Charro Baena, 2015; Font-Ribera et al., 2014; Giró, 2011; Luengo et al., 2009; Marsiglia et al., 2008; Meneses et al., 2009; Meneses et al., 2013), despite the importance of knowing about and understanding these diversities in order to increase our capacity to develop preventive strategies involving these subgroups (Meneses, 2009).

Given the current economic context, changes in family and social structure or migration flows, the relevance of an interrelated study of inequalities, emigration and adolescent development in this new reality should be clear, since these are elements that have an important impact on the health of our youth (Bachman, O'Malley, Johnston, Schulenberg & Wallace, 2011; Blum, Beuhring, Shew, Bearinger & Sieving, 2000; Vega, Aramendi & Garín, 2012). The analysis of consumption patterns among adolescents allows us to identify the most vulnerable individuals (Caravaca Sánchez, Navarro-Zaragoza, Luna Ruiz-Cabello, Falcón Romero, & Luna Maldonado, 2017; Luengo et al., 2009) so that we can put in place effective prevention plans.

Burela is a municipality in the north of Lugo province, Galicia. In recent years it has been subject to truly rapid and profound economic and demographic developments (Oca, 2013). It is a multicultural urban centre where around 50 nationalities coexist among its 9,580 inhabitants, of which 8,497 are Spanish nationals and 1,083 are foreigners (INE 2015). The largest immigrant community is made up of Cape Verdeans, and more recently colonies of, for example, Peruvians, Ecuadorians or Senegalese have joined them. This locality is thus a lively example of multicultural coexistence that raises new challenges in the search for a better social integration.

The objective of the present study is to determine the effect of nationality and social inequities on the use of alcohol, tobacco and cannabis among adolescents in a multicultural context.

Methods

Study design and population

A cross-sectional or prevalence study was carried out among students of the 2nd, 3rd and 4th grades of compulsory secondary education (ESO), aged 14 to 18 in the secondary schools of Burela (Lugo). The entire ESO student population was recruited for the study (n = 262).

Data Collection

Data collection was carried out using FRESC questionnaires (Factors de Risc en Estudiants de SeCundària) (Pérez et al., 2013), designed by the Public Health Agency of

Barcelona for the purpose of determining emerging risk behaviors among secondary school pupils. The main indicators included are, for example, sociodemographic variables, consumption of addictive substances, health and mood, free time and sexuality. Two models of the questionnaire were employed: one for the 2nd grade of compulsory secondary education (13-14 years), and one for 4th grade (15-16), differing in some questions on the consumption of addictive substances, mobility or questions related to sexuality. In order to access our population, apart from getting the relevant parental authorization we were also in contact with the school principals and counselors. The data were collected in the classrooms during school hours and in the presence of a teacher and a member of the research team during December 2015. Data confidentiality was guaranteed at all times. In addition to the FRESC questionnaire, the KIDMED questionnaire (Serra-Majem et al., 2004), specifically created for the evaluation of the dietary habits of children and adolescents, was also employed.

Variables

Independent variables

Nationality. The nationality of the father and mother was used to determine whether the student was a Spanish national or an immigrant. Those students whose parents were both born outside Spain were considered immigrants.

Weekly spending money. Students were asked about the money they had available on a weekly basis via the question: "How many Euros do you have per week to spend on yourself?" The amounts were recoded into three categories: less than €10; between €10 and €20; and more than €20.

Sex and age were considered independent variables

Dependent Variables

Expectations regarding alcohol. This variable was measured using the question: "Do you think alcohol makes parties more fun? Totally agree / Quite agree / Quite disagree / Totally disagree". The variable was recoded into two categories: totally or quite agree and totally or strongly disagree.

Trying alcohol. This variable was measured by the question: "Have you ever drunk half a glass of an alcoholic beverage? No, never / Yes, on occasion / Yes, in the last 12 months / Yes, in the last 6 months / Yes, in the last 30 days." The variable was recoded into two categories (No vs. Yes).

Risky alcohol consumption. The variable was measured with the question: "Have you ever drunk more than 4 alcoholic beverages on a single occasion? (An occasion was considered to be approximately 4 hours.) No, never / Yes, on occasion / Yes, in the last 12 months / Yes, in the last 6 months / Yes, in the last month. The variable was recoded into two categories (No vs. Yes).

Getting drunk. This variable was measured by the question: "Have you ever got drunk? No, never / Yes, on occasion / Yes, in the last 12 months / Yes, in the last 6 months / Yes, in the last month." The variable was recoded into two categories (No vs. Yes).

Buying some alcoholic beverage. A dichotomous variable, measured by the question: "Have you ever bought an alcoholic beverage for yourself? Yes/No". The variable was recoded into two categories (No vs. Yes).

Smoked tobacco. A dichotomous variable, measured by the question: "Have you ever smoked? Yes/No".

Used marijuana. This variable was measured using the question: "Have you ever tried marijuana? No, never / Yes, at some point / Yes, in the last 12 months / Yes, in the last 30 days". The variable was dichotomized (No vs. Yes).

Statistical analysis

Proportions and means were calculated for the descriptive analysis. Associations were established using logistic regression. Initial theoretical models were generated that included all the independent variables. From these, the final models were calculated in which all the significant variables were included, as well as those that were not significant but whose exclusion altered the coefficients of the remaining variables by more than 10% (confounding variables). The analyses were performed using the statistical package SPSS v22. The calculation of proportions was carried out using the EPIDAT 3.1 statistical program together with the statistical analysis package R.

Results

Participation in the study was 91% (n = 238), of whom 51 were immigrants and 187 were Spanish nationals. In terms of sex, the sample was made up of 111 girls and 127 boys. Table 1 presents the main characteristics of the subjects. Table 2 shows the expectations and use of alcohol, tobacco and cannabis of the subjects by nationality and Table 3 does the same by sex.

Regarding expectations of alcohol use, the multivariate analysis indicates that being a boy [OR = 1.83; 95% CI: 1.04-3.22] and in the highest age group [OR = 2.54; 95% CI: 1.23-5.26] are associated with an increased risk of considering that alcohol makes parties more fun (Table 4). The age variable has also been shown to be associated with the proportion of pupils aged 13, 14 and 15 or older who have tried alcohol on occasion, which was 27.3%, 47.7% and 75.9%, respectively.

It should be noted that a total of 33.7% of Spanish students purchased alcoholic beverages versus 14.7% of immigrant students (p = 0.035) (Table 2), so that being local increases the possibility of buying alcohol [OR = 2.95; 95% CI: 1.04-8.31] (Table 4).

The amount of spending money was shown to be associated with all variables studied. Thus having more than €10 a week increases the risk of consuming more than 4

alcoholic beverages on a single occasion [OR = 3.35; 95% CI: 1.34-8.38] as well as getting drunk [OR = 6.45; 95% CI: 2.31-18.07]. In addition, students with weekly pocket money above €20 are most likely to have tried alcohol [OR = 3.01; 95% CI: 1.16-7.79] as are those aged 15 or older [OR = 8.61; 95% CI: 3.96-18.71].

The proportion of subjects who have tried tobacco was 1.8%, 7.6% and 17% among students aged 13, 14 and 15 or older respectively, with the risk for the latter being 11 times higher [OR = 11.03; 95% CI: 1.43-84.73] (Table 4).

Finally, as regards marijuana, the proportion of subjects who have tried this substance rises from 0% at 13 to 7% at 15. As with the other dependent variables considered, the greater availability of money significantly increases the risk of having tried cannabis [OR = 15.3; 95% CI: 1.80-130.43] (Table 4). The variables of sex and immigrant status were not shown to be linked to the use of any of the three drugs considered.

Table 1. *Description of the student sample. Burela, 2015.*

Variables	Total (n=238) Percentage [CI95%]+
Nationality	
Immigrant	21.4 [16.4 – 26.6]
Sex	
Female	46.6 [40.3 – 53.3]
Age	
≤ 13	23.5 [16.8 – 30.3]
14	27.7 [21.0 – 34.5]
≥ 15	48.7 [42.0 – 55.5]
Mean	14.9 [14.8 – 15.1]
Weekly spending money	
≤ 10 euros	55.0 [48.7 – 61.6]
10-20 euros	23.1 [16.8 – 29.7]
≥ 20 euros	16.8 [10.5 – 23.4]
Mean	16.3 [13.8 – 18.9]

Note. *CI: confidence interval.

Table 2. *Expectations and use of alcohol, tobacco and cannabis of subjects by nationality. Burela, 2015.*

Dependent variables	Total (n=238)	Spanish nationals (n=187)	Immigrants (n=51)	p-value
	Percentage / Mean			
Believe that alcohol makes parties more fun	34.5	32.6	43.1	0.163
Have bought an alcoholic drink for a party on occasion	28.8	33.7	14.7	0.035
Have drunk half a glass of an alcoholic drink on occasion	56.3	53.5	68.6	0.054
Have drunk more than 4 alcoholic drinks on a single occasion	32.0	32.3	31.4	0.929
Have got drunk on occasion	24.1	21.4	31.4	0.235
Have smoked tobacco on occasion	10.5	9.7	14.6	0.333
Have tried marijuana on occasion	4.3	4.9	2.0	0.364

Table 3. *Opinions and habits by sex.*

	Percentage		p-value
	Female n=46,6	Male n=53,4	
Believe that alcohol makes parties more fun	39.0	61.0	0.080
Have bought an alcoholic drink for a party on occasion	52.6	47.4	0.701
Have drunk half a glass of an alcoholic drink on occasion	49.3	50.7	0.080
Have drunk more than 4 alcoholic drinks on a single occasion	28.1	35.9	0.344
Have got drunk on occasion	46.9	53.1	0.795
Have smoked tobacco on occasion	48.0	52.0	0.933
Have tried marijuana on occasion	3.6	4.9	0.631

Table 4. Influence of subjects' characteristics on their expectations and habits regarding use of alcohol, tobacco and cannabis. Burela, 2015.

Odds Ratio (95% confidence interval)							
Explanatory variables	Believe alcohol makes parties more fun	Have bought alcohol	Have drunk half a glass	Have got drunk	More than 4 drinks on a single occasion	Have smoked tobacco	Have tried marijuana
Sex							
Female	1						
Male	1.83 (1.04 - 3.22)						
Nationality							
Immigrants		1					
Spanish		2.95 (1.04 - 8.31)					
Age							
13 años	1		1			1	
14 años	1.21 (0.53 - 2.77)		2.27 (1.31 - 5.01)			4.43 (0.50 - 39.08)	
15 años	2.54 (1.23 - 5.26)		8.61 (3.96 - 18.71)			11.03 (1.43 - 84.73)	
Weekly pocket money							
<10 euro			1	1	1		1
10-20 euros			0.84 (0.41 - 1.70)	6.45 (2.31 - 18.07)	3.35 (1.34 - 8.38)		15.30 (1.80 - 130.43)
20>			3.01 (1.16 - 7.79)	3.07 (1.08 - 8.73)	1.10 (0.42 - 2.86)		10.42 (1.05 - 103.21)

Note. a Adjusted for all variables included in the column.

Discussion

The results of the present study show that the consumption of alcohol, tobacco and cannabis increases with age as well as with the greater availability of spending money. These data do not show an association between immigrant status and the consumption of any of the substances in question.

The results of the study are consistent with the data yielded by the survey of drug use in secondary schools (ESTUDES, 2016). Thus, our results confirm the trend that as age increases, so does the risk of consuming substances of some sort. However, our data do not agree with other studies that show a higher rate of consumption and a younger starting age in immigrants compared to local people (Luengo et al., 2009; Meneses et al., 2013). This inconsistency may well be due to two reasons: firstly, to the different criteria used in classifying subjects as immigrants or locals - our study has considered nationality and not ethnicity; and secondly, to the fact that these studies analyzed populations of predominantly Latin American origin (Luengo et al., 2009; Marsiglia et al., 2008; Meneses et al., 2013; Tortajada et al., 2008), while our immigrant population is mostly Cape Verdean.

The hypothesis of a possible protective effect of ethnicity has been suggested in the literature (Best et al., 2001; Fosados et al., 2007; Marsiglia, Kulis, Hednt & Sills, 2004), although this seems to be true only in certain groups, such as those in which the importance of religion, paternal control (permissiveness regarding going out at night, where gender inequality should be highlighted), and abstinence within the family could act as protective factors (Giró, 2011).

It should be pointed out that, regarding ethnicity, the literature tends to favor self-classification of the subjects of a

study, despite some evident limitations, such as in the qualitative study of Charro Baena (2015) in which student doubts regarding their own ethnicity can be observed. In addition, it is necessary to consider the process of creation of hybrid identities, constructed from contact in earliest childhood with both cultures, as opposed to assimilation, with its subsequent blurring of ethnic differences (Fosados et al., 2007; Luengo et al., 2009; Marsiglia et al., 2008; Tortajada et al., 2008).

It is known that the acculturation process is stronger in adolescents than in children, who live in the community from the earliest stages of their development. Second-generation immigrants tend to imitate the values of the locals by assimilating their values and customs (Marsiglia et al., 2004). Some authors have pointed to the so-called "white male" effect (Bachman et al., 2011), referring to the higher risk of substance use they present. Thus, it is worth reflecting on the fact that by focusing on the search for differences, we may be running the risk of constructing our interventions on variables that are not susceptible to modification (Blum et al., 2000; Vega et al., 2012).

Nevertheless, having said that, numerous studies tend to support the hypothesis that inequalities are not born of nationality or ethnicity, but are more likely to be dependent on the economic resources of our populations. Thus, linking nationality to inequality or inequity regarding health will go hand in hand with socioeconomic status (Floyd, Alexandre, Hedden, Lawson & Latimer, 2010; Malmusi et al., 2010).

With regard to expectations concerning alcohol consumption, our results have shown that being male as well as older increases positive expectations. These results are

consistent with the study by Meneses et al. (2013) and conform to traditional gender roles (Borrell & Artazcoz, 2008). However recent studies have shown similar levels of consumption between men and women (ESTUDES, 2016; Moure-Rodríguez et al., 2016). This effect may be the result of the way in which society itself persists in understanding the equality and empowerment of women as the assimilation of patriarchal roles. That is, a clear link between “being a man” and an unhealthy lifestyle is evident (Borrell & Artazcoz, 2008; Malmusi et al., 2010).

In terms of availability of economic resources, the data obtained support the hypothesis that having more spending money at one’s disposal is a decisive factor in greater consumption. Thus, with more money available, it is the pupils who are Spanish nationals who will present the highest rates of alcohol, tobacco and cannabis use. In addition, taking into account the ease of access to or acquisition of alcoholic beverages, it is again the locals who buy more alcohol. These results are consistent with the results obtained in the ESTUDES study (2016), as well as the study by Moure-Rodríguez et al., (2016), carried out among university students in our area, which found a link between higher family socioeconomic level and greater student alcohol consumption.

There are four main limitations of our study: 1) The fact that the questionnaire used to collect the data was self-completed in the classrooms may have caused pupils to give responses which they felt to be more socially acceptable, despite attempts to ensure the greatest confidentiality during the process; 2) The definition of ‘immigrant’ did not consider the length of stay in Spain, which may have led to a poor classification of the subjects, thereby limiting the identification of immigrant status as a risk factor (Monge et al., 2015); 3) The non-inclusion of vocational training students may have devalued the results, although this limitation will mainly affect the descriptive rather than the analytical results since there is no theoretical basis to consider that the independent variables in question may present different effect in this population group; and 4) It is likely that the external validity of our study is conditioned by the considerable variability in the composition and demography of the different multicultural communities in our country. Even if it is not possible to imagine a reference universe, we believe our results may help to interpret the consumption of alcohol, tobacco and cannabis in other multicultural populations.

In conclusion, the results of our study show that the use of alcohol, tobacco and cannabis increases with age as well as with greater spending money. These data show that immigrant pupils do not constitute a risk group for the consumption of these substances and hence should not be stigmatized. We consider, therefore, that drawing up new proposals for monitoring these inequalities will be fundamental for the improvement of integration programs.

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Conflict of interests

The authors of the article declare that there is no conflict of interest.

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