Self-reported consumption of alcohol and other drugs in a Spanish university population

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Abstract

Introduction. This study aims to explore the consumption of alcohol and other drugs in university students and to verify whether there are gender differences in the consumption of these substances.

Method. A descriptive study using self-reports. Drug consumption was evaluated in 506 students from the University of Almería (60.9% women and 34.6% men). A self-report measure was created specifically for this investigation; it collects information about the intensity and frequency of alcohol and other drug use. Other instruments used were the *CAGE* (alcohol), the *AAS*, the *APS*, the *AUDIT* and the *MAC*.

Results. Results show that alcohol is the preferred substance, the most widely consumed, and the substance most often used by university students to achieve states of inebriation (about 70% of subjects). The second most consumed and preferred substance used by students for "getting high" is cannabis. If we analyze consumption in the past month, 82.6% of subjects have consumed alcohol, 32.6% cannabis and 3.0% designer drugs. In relation to gender, men consumed significantly more alcohol and cannabis than women, when analyzing the past week.

Discussion and Conclusion: These results are similar to those obtained at other Spanish universities, but prevalence rates exceed those found in studies that examine a general, young population, or students between the ages of 14 and 18.

Keywords: university population, drugs, alcohol, descriptive study via self-reports

Resumen

Introducción. Los objetivos de este estudio son explorar el consumo de alcohol y otras drogas en universitarios/as y comprobar si existen diferencias en consumo según el sexo.

Método. Se trata de un estudio descriptivo mediante encuesta. Se ha evaluado el consumo de drogas en 506 alumnos/as de la Universidad de Almería (España). Dicha evaluación se ha llevado a cabo a través de un autoinforme elaborado expresamente para esta investigación, con el que se ha recabado información acerca de la intensidad y frecuencia de consumo de alcohol y otras drogas. Otros instrumentos de medida del consumo de drogas utilizados son el *CAGE* (alcohol), el *AAS*, el *APS*, el *AUDIT* y el *MAC*.

Resultados. Los resultados muestran que el alcohol es la sustancia preferida, más consumida y con la que se alcanzan con más frecuencia estados de embriaguez (en torno al 70% de los sujetos). La segunda sustancia más consumida, preferida y con la que se han "colocado" más frecuentemente es el cannabis. Además, en el último mes, el 86,2% de los sujetos ha consumido alcohol, el 32, 6% cannabis y el 3,0% drogas de diseño. En relación con el género, los varones han consumido más alcohol y más cannabis que las mujeres en la última semana.

Discusión. Estos resultados coinciden con los obtenidos en otras universidades españolas, pero superan los índices de prevalencia reseñados por otros estudios con respecto a la población joven general y con respecto a la población estudiante entre 14 y18 años.

Palabras clave: universitarios, drogas, alcohol, estudio descriptivo mediante encuesta.

Introduction

There is growing concern about drug use in our country, especially drug use among the youth, since the consequences of comsumption can be especially dramatic and irreversible in early years of biological, psychological and social development (Caspari, 1999; Iversen, 1999; Lizasosain, Moro & Lorenzo, 2001; Saez García-Portilla, Martínez & colls, 2003; Sainz, García-Portilla, Martínez & colls., 2003). This concern may be partly justified since we have observed an increase in the type and quantity of available substances in the illegal drug market in recent decades. At the same time, a recreational pattern has become established where large groups of young people gather outdoors on weekends and consume alcohol, with an increasing presence of other drugs such as cannabis, MDMA ecstasy, hallucinogens, MDA, cocaine, etc. (Calafat, Fernández, Juan & Becoña, 2005; Infante, Barrio & Martin, 2003; Rodríguez, Agulló & Agulló, 2003).

For some years now, Spain has carried out systematic studies through the Spanish Observatory on Drugs and through different regional drug programs; these studies offer regular information about consumption of addictive substances by the population in general, and according to age sector and gender. Likewise, systematic studies have examined consumption by students between the ages of 14 and 18, including students in compulsory and post-compulsory secondary education and in lower level vocational training (ESTUDES, 1994-2008). Thus, we are able to summarize the most current data and the epidemiological trend by referring to EDADES (2008), the Report from the Spanish Observatory on Drugs (OED, 2007) and ESTUDES (2008).

Alcohol is the primary substance used in our country. In 2008, 76.1% of Spanish men and 51.4% of women had consumed alcohol in the last 30 days. The largest weekly consumption belonged to the age bracket of 25 to 29 years, with 16.9 as the mean age for initiating alcohol consumption. Daily consumption of alcohol was found in 15.3% of the population, fundamentally between the ages of 30 and 65. It is worth noting that between 20 and 24 years of age, 5.8% of the population considered themselves to be at risk or at great risk as drinkers, and between the ages of 30 and 34, this percentage was 6.2%. However, since 2005, a trend toward stabilization of consumption has been observed (EDADES, 2006), with prevalence of consumption even declining by approximately 3 points in 2008, by age and by gender (EDADES, 2008). In students between the ages of 14 and 18, alcohol was consumed by

72.9% in the past 12 months, and by 58.5% in the past 30 days, with the age of initiation at 13.7 years (ESTUDES, 2008).

Cannabis, for its part, is the most widespread illegal substance. In the year 2001, 24% of Spaniards between ages 15 and 64 had tried it at some time in their life, 6.5% had done so in the past 30 days, and 1.6% consumed it on a daily basis (OED) (2003). The prevalence trend between 1995 and 2001 shows an increase in consumption for the different periods of time (for example, from 3.1% to 6.5% for the past 30 days). Monthly and daily consumption continued to increase in 2003 and 2005 (for example, daily consumption rose to 2.0%), although experimental consumption stabilized (EDAD, 2006). The age of initiation with cannabis consumption was 18.4 in 2001, 18.3 in 2005 (EDAD, 2006) and 18.5 in 2008. In the most recent study, the prevalence trend has become inverted, showing a reduction of approximately two points both by age and by gender. Between ages 14 and 18, 30.5% consumed cannabis during the past 12 months, 20.1% in the past 30 days, and the mean age for initiation was 14.6 years (ESTUDES, 2008).

With regard to ecstasy or MDMA, it is considered to be the most consumed recreational drug in Spain. So much so that in the year 2001, 6.2% of males and 2.2% of females between the ages of 15 and 64 had tried ecstasy some time in their life, while for the past 30 days, the figures were 1.2% of males and 0.2% of females. The age groups with the highest consumption rate in the past 30 days were those between the ages of 15 and 19 (2.8% of males and 0.6% of females) and between the ages of 20 and 24 (2.6% of males and 0.9% of females) (OED) (2003), with increasing consumption during the period 1995 - 2001. In 2008, a decline in consumption among males was observed for both the annual prevalence and for the past 30 days, as compared to data for 2005 (EDADES, 2008). The mean age for initiation stabilized at around 20 years of age (EDADES, 2005, 2008). Ecstasy was consumed by 1.9% of secondary education pupils in the past 12 months and by 1.1% in the past 30 days. The age of initiation was 15.2.

In the case of cocaine (powdered), for the year 2001, 2.6% of Spaniards between 15 and 64 years of age had consumed cocaine in the past 12 months, and 1.4% had done so in the past 30 days. In this case a significant rise in consumption was observed between 1999 and 2001 (OED) (2003). For the year 2005, cocaine consumption was found in 3% of Spaniards, with 1.6% having consumed cocaine in the past month. These figures were stable for the year

2008. There are important differences between the sexes. For example, in 2008, male consumption in the past 30 days came to 2.9%, as compared to 0.7% of women. The average age of initiation remained stable at 20.6 years, and the age group with the most frequent consumption was between 15 and 34 years old (EDAD, 2006). Between the ages of 14 and 18, the figures for cocaine consumption were 3.6% and 2%, for the past 12 months and the past 30 days, respectively. The mean age for initiation in this age group was 15.3 years.

Less consumed substances are amphetamines or speed (0.5% of males and 0.1% of females in the past 30 days, 2008), freebase cocaine (where an increase in consumption is observed in the latest EDADES report) or heroine (which remains stable with consumption between 0 and 0.1%). In the case of students between ages 14 and 18, heroine is consumed by 0.7% and by 0.6%, respectively, and the age of initiation is 14.3 years old. Hallucinogens and amphetamines come to about 2.5% for the past 12 months and 1.2% for the past 30 days, with 15.4 years as the age of initiation.

In summary, the above data point to a stabilizing prevalence of the different substances, even a reverse trend. Moreover, the average age of initiation remains stable. Nonetheless, in the student sample between ages 14 and 18, the prevalence indices are greater than in the general population. This fact clearly indicates that initiation and consolidation of drug consumption takes place during school years and schools are appropriate contexts for carrying out preventive programs.

In fact, other European reports establish differences in youth consumption of alcohol and other drugs as a function of the substances that are available in each country. Thus, according to the *European Monitoring Centre for Drugs and Drug Addiction* (2009), in the 16-year-old popopulation, the primary consumed substance is alcohol in all of Europe, with figures similar to Spain, or higher. However, the second-most consumed illegal drug varies between cannabis and inhalants. In other words, the substance varies, but the consumption rates are very similar.

However, we do not have at our disposal systematic studies on drug consumption in the university population. These would allow us to at least partially assess how consumption evolves in the next educational stage, and whether new addictive substance users are incorporated during university years. In this context, there are certain epidemiology studies of con-

sumption in a youth population in the university setting. In 1987, a study was published on alcohol consumption at the University of Valladolid (Queipo, Álvarez & Velasco, 1986), reporting that 88.9% of male students and 73.3% of women students consumed alcohol on weekends, without mentioning other substances. Laporte (1979) found that alcohol consumption among students at the University of Barcelona was less than among the general population, that 22% of the subjects had consumed amphetamines in the past 6 months and 9.6% had consumed cannabis. More recently, Viña and Herrero (2004) performed a study with students from the University of La Laguna, and reported that 86.3% of males and 73.1% of females consumed alcohol at some time during the month, and that 30.2% of men and 13.2% of women consumed cannabis in the same period. In the case of cocaine, 3.5% of males had consumed during the last month, and 2.2% of females.

Regarding alcohol, we find similar figures among medical students at the National University of Ireland (Boland, Fitzpatrick, Scallan*, et al., 2006*), although with less difference between males and females, and a marked trend toward increasing alcohol consumption over the past 30 years. Similar results were found in a study performed in the United Kingdom with second-year students in different degree programs from 10 different universities (Webb, Ashton, Kelly & Kamali, 1996). A noteworthy data point is the regular (weekly) consumption of cannabis by 19.8% of the subjects surveyed, and of amphetamines by 3.5%.

In summary, the studies indicate greater consumption of alcohol, cannabis and cocaine among university students than in the general population. However, in order to draw conclusions about consumption patterns in the university population, we need systematic studies that provide this information and that ensure the validity of self-reports by the subjects being evaluated.

Objectives

The present study has objectives along these lines. One, to verify the consumption indices of different substances (alcohol, cannabis, designer drugs, hallucinogens, cocaine, amphetamines and heroine) among university students; and two, to determine whether there are differences in consumption patterns between men and women, in addition to checking whether the results from the self-report, created for this study, match results from other validated scales of consumption.

Method

Participants

The sample of participating subjects in this study was composed of 506 students, of which 308 were women (60.9%) and 198 were men (34.6%), all of them students at the University of Almeria, in 15 different degree programs. The mean age of subjects was 20.9 years, with a standard deviation of 2.4 years and a median of 21. Ages ranged between 17 and 35 years.

Design and data analysis

This population was studied through a probabilistic population survey of a cross-cutting nature (Montero & León, 2005), including comparisons as a function of gender. The statistical analyses performed were descriptive analyses of the percentage distribution and comparisons using the Chi-squared statistic.

Variables and instruments

For this study, the assessment instrument was a self-report, or self-administered questionnaire, regarding drug consumption. Two types of scales are included therein: a self-report on consumption of alcohol and other drugs (drawn up expressly for this study), and other validated scales on consumption.

1) *Self-report on Consumption of Alcohol and Other Drugs* (designed for this study). This is a self-report composed of direct questions about consumption of alcohol and other substances. This scale on consumption assesses: a) consumption of drugs during weekends; b) substances that have been tried (at some time, during the past year, the past month, the past weekend, the last time "you got high"); c) substances (or combinations thereof) that are consumed most frequently; d) favorite substances; and e) frequency of consumption of the different substances. Results from the report were corroborated using urine analysis.

2) *AUDIT* (*Alcohol Use Disorders Identification Test*, Saunders, Aasland, Babor, De la Fuente & Grant, 1993; Spanish version by Rubio, Bermejo, Caballero & Santo Domin-

go, 1998). This test, produced by the World Health Organization, detects at-risk drinkers. It contains 10 items that explore the subject's alcohol consumption as well as any resulting problems. The score is obtained by summing the 10 items, and the categories established are: from 8-15 points, average level of problems with alcohol; greater than 15 points, at risk for developing alcohol problems (Babor, Higgins-Biddle, Saunders & Monteiro, 2001).

3) *AAS* (*Addiction Acknowledgement Scale* (MMPI-2), Weed, Butcher, McKenna & Ben-Porath, 1992; Spanish version by Hathaway & McKinley, 1999). This scale serves for acknowledging addiction to alcohol and other drugs, and contains 13 dichotomous (true-false) items, such that a higher score means greater substance abuse. A direct score of 4, whether for men or for women, indicates addiction.

4) Cage Alcohol Interview Scale (Mayfield, McLeod & Hall, 1974; Spanish version by Rodríguez-Martos, Navarro, Vecino & Pérez, 1986). This is an instrument for detecting alcoholism, where the questions are interspersed in a broader self-report. A score of 1 is considered to be indicative of alcohol problems, and scores of 2-4 indicate alcoholic dependency. In this study we used an adaptation of CAGE in order to assess cannabis and cocaine consumption, modifying the items that assess alcohol consumption in order to assess the other substances (Muñoz, Roa, Pérez, Santos-Olmo, & de Vicente, 2002).

5) *APS* (*Addiction Potential Scale* (MMPI-2), Weed, Butcher, McKenna & Ben-Porath, 1992). This scale contains 39 true-false items included in the MMPI-2, designed to detect subjects that may potentially develop addiction problems. It is an indirect scale; in other words, the items are camouflaged in that they do not directly ask about consumption of substances, but are related to personality dimensions and life situations associated with substance abuse. High scores suggest a high likelihood of substance abuse, and although there is no defined cut-off point, a direct score of greater than 28 for males or 27 for females would indicate problems with substance use.

6) *MAC* (*McAndrew Alcoholism Scale* (MMPI-2), McAndrew, 1965). This is a camouflaged scale that contains 46 items in a true-false format, referring to general lifestyle characteristics and personality patterns. It is an indicator of alcoholism potential. A cut-off point of 24 for alcoholism is an adequate discriminator for 81.5% of the population.

Procedure

Participants were recruited through posters displayed throughout the University of Almeria campus. Any interested students came to the information desk where they were informed about the conditions for participation: they were to appear on a certain day and at a certain time (a Monday, so that consumption during the prior weekend could be detected), and would complete a questionnaire about personality, health and life habits which would include consumption of alcohol and other drugs, after which they were to provide a urine sample. As compensation they would receive €10. After agreeing to these conditions, they were given an appointment for the day and hour (9 AM) when they would complete the questionnaire, provide the urine sample, and receive the promised payment.

Results

The results on consumption, collected through the scale on *Consumption of Alcohol and Other Drugs,* are shown in Table 1. This scale makes reference to different periods prior to the time of the assessment.

Table 1. Percentage of subjects who have consumed different substances during different periods of time.

	Past year			Past month			Past week			Last weekend		
Substance	Women (%)	Men (%)	Total (%)	Women (%)	Men (%)	Total (%)	Women (%)	Men (%)	Total (%)	Women (%)	Men (%)	Total (%)
Alcohol	91.2	94.9	92.7	85.1	87.9	86.2	67.2	77.3	71.1	54.2	65.7	58.7
Joints	46.8	56.6	50.6	29.5	37.4	32.6	20.8	33.3	25.7	17.9	28.8	22.1
Designer drug	7.5	5.6	6.7	3,6	2.0	3.0	1.3	1.0	1.2	1.3	-	0.8
Amphetamines	4.2	4.5	4.3	0.6	0.5	0.6	0.3	-	0.2	-	-	-
Cocaine	11.0	13.1	11.9	3.6	3.5	3.6	1.3	2.5	1.8	1.3	1.5	1.4
Hallucinogens	3.2	2.5	3.0	0	0	0	0.3	0	0.2	-	-	-
Heroine	0.3	1.5	0.8	0	1.0	0.4	0	0.5	0.2	0	0.5	0.2

Thus, in the past *year*, 92.7% of subjects had consumed alcohol, 50.6% had smoked joints (cannabis), 6.7% had tried designer drugs, 4.3% had taken amphetamines, 11.9% had used cocaine, 3% had tried hallucinogens and 0.8% had had contact with heroine at least once. In the past *month,* 86.2% of the subjects had consumed alcohol, 32.6% had smoked cannabis, 3% had taken designer drugs, 0.6% had taken amphetamines, 3.6% had used cocaine, hallucinogens had not been consumed, and 0.4% had had contact with heroine. As for the prevalence of consumption during the *week* prior to assessment, results indicate that 71.1% of the subjects had consumed alcohol and 25% had consumed cannabis, 1.8% cocaine and 1.2% designer drugs. In this case there were statistically significant differences between the sexes in alcohol consumption (Chi-squared, 5.947; p=0.015) and in smoking joints (Chi-squared, 9.950; p=0.002), with males consuming significantly more alcohol and joints than the women. On the *weekend* prior to the assessment of drug consumption, alcohol continued to be the most consumed substance with 58.7% of the subjects, followed by smoking joints, with 22.1% of the subjects. The third most-consumed substance was cocaine at 1.4%. In this case there were also statistically significant differences between the sexes, both for alcohol (Chi-squared, 6.501; p=0.011) and joints (Chi-squared, 8.355; p=0.004), with significantly greater consumption of both substances by males.

Regarding the intensity of consumption of the different substances, understood as the frequency of reaching inebriation or a "high" with each substance, data indicate that alcohol is the substance that subjects most often "get high" with, followed by alcohol in conjunction with other drugs and by the consumption of cannabis. States of inebriation through the isolated use of cocaine, pills (designer drugs) or heroine occurred less frequently (see Table 2).

As for substances consumed by the subjects the last time they reached states of inebriation, Table 3 shows that about 70% of the sample consumed alcohol, followed by cannabis (joints) and by both substances taken together. No statistically significant differences are found between the sexes.

Table 2. Percentage of subjects that consumed the different substances and "got high". Differences as a function of gender.

	Alcohol			Alcohol +joints			Joints			Cocaine			Pills			Heroine		
	Wom. (%)	Men (%)	Total (%)	Wom. (%)	Men (%)	Total (%)	Wom. (%)	Men (%)	Total (%)	Wom. (%)	Men (%)	Total (%)	Wom. (%)	Men (%)	Total (%)	Wom. (%)	Men (%)	Total (%)
Never	46.1	28.8	39.3	62,7	48.5	57.1	72.7	65.7	70.0	94.5	94.4	94.5	43.2	36.1	40.7	99.4	99.0	99.2
Less than once / mo.	14.0	13.6	13.8	12.3	12.1	12.3	7.5	6.1	6.9	3.2	2.0	2.8	15.3	14.4	15.0	0.6	0.5	0.6
Monthly	12.0	15.7	13.4	8.4	11.6	9.7	4.9	4.0	4.5	1.0	3.0	1.8	13.1	11.3	12.5		0.5	0.2
Weekly	26.0	41.9	32.2	14.6	25.8	19.0	6.8	12.1	8.9	0.6	0.5	0.6	26.2	38.1	34.4			
Daily	1.9	------	1.2	1.9	2.0	2.0	8.1	12.1	9.7	0.6	----	0.4	2.2	----	1.4			
Chi squared	23.758			13.397			----------			----------			---------			--------------		
Sig.	.000			.009														

Table 3. Frequency and percentage of subjects that consumed different substances the last time they "got high", as a function of gender.

	Women n=308	Men n=198	total n=506	Sig.
None	21.8(67)	12.6(25)	18.2(92)	
Alcohol	66.6(205)	75.3(149)	70.0(354)	
Joints	7.8(24)	6.6(13)	7.3(37)	
Designer drugs	1.0(3)	-	.6(3)	
Amphetamines	-	-	-	------
Cocaine	.3(1)	.5(1)	.4(2)	
Hallucinogens	-	-	-	

Results from the validated scales used in this study are shown in Table 4. The following aspects can be highlighted. First, the median obtained on the CAGE questionnaire (alcohol) was 1, meaning that 50% of the participants could manifest problems with alcohol. Furthermore, at the 75th percentile the value obtained was 2, meaning that 25% of the sample may be showing signs of alcohol dependency. These results are not

produced with the CAGE scale when used for cocaine and cannabis, where indications of problems with these substances are not found in such proportions of the sample.

Table 4. Median and percentiles on the questionnaires: CAGE, (alcohol, cannabis and co-caine), AUDIT, APS, MAC, ASS and Quantity of Consumption.

	CAGE Alcohol	CAGE Cannabis	CAGE Cocaine	Audit	APS	MAC	ASS	QUANTITY CON CONSUMP.
Percentile (25)	0	0	0	2	20	16	1	4
Median	1	0	0	5	23	19	2	8
Percentile (75)	2	0	0	8	25	22	3	14

Second, cut-off points for the AUDIT scale indicate a profile of at-risk drinkers in the range of 8-12 for men, and 6-12 for women. The score obtained at the 75th percentile was 8, indicating that 25% of the sample surveyed show a profile that classifies them as at-risk drinkers, concurring with the results from the CAGE (alcohol).

Third, for the scale regarding potential for addiction (APS), a score of about 28 for men and 27 for women would indicate problems with substance use (referring to alcohol and other drugs). The value obtained at the 75th percentile is 25, indicating that 25% of the subjects have scores approaching a diagnosis of substance use problems. Fourth, the 75th percentile on the MAC scale is 22, very nearly approaching this scale's cut-off value of 24 points to identify potential alcoholism. Finally, in the Addiction Acknowledgement Scale (AAS), a maximum score of 4 is interpreted as indicative of substance abuse. The 75th percentile has a value of 3, very near a diagnosis of substance abuse as measured by this scale.

Discussion

Results from this study on the prevalence of consumption of addictive substances confirm the predominance of alcohol as the most consumed substance for all parameters considered: the past year, the past month, the past week, last weekend and the last time that subjects reached a state of inebriation or "got high". The case is such that 71.1% of the subjects consumed alcohol in the past week, revealing that their consumption is something habitual. Perhaps the most striking result is that 41.9% of the males and 26.0% of females consume

alcohol to the point of inebriation every week. In addition, when we compare the results from this study with those obtained by the OED (2003) and by EDADES (2008), we can state that the university student population that consumes alcohol on a weekly basis is much greater than in the general population. Furthermore, the prevalence of alcohol consumption in the past 30 days is greater in the subjects assessed in this study than in youth in the age brackets of 20-24 and 25-29 years (OED, 2003; EDADES, 2008), and much greater than consumption by students between the ages of 14 and 18 (ESTUDES, 2008).

Results regarding cannabis consumption show much more widespread use in Almeria's university population than in the Spanish population in general, for the different periods of consumption that were assessed. In addition, cannabis consumption for the different periods is greater in this university sample than in the youth population sectors between 20-29 years of age (OED, 2003; EDADES, 2008). If we compare these results with those from the ESTUDES study (2008), we can affirm that cannabis consumption among university students in the past 30 days is 10% greater than among students between the ages of 14 and 18.

In the case of cocaine, results from this study show that consumption occurs on an occasional basis, that is, prevalence over the past year was 11.9%, while prevalence for the past week was only 1.8%. Nonetheless, consumption among university students is greater than in the general youth population and greater than the teenage student population between 14 and 18 years (3.6% as compared to 2%).

Regarding designer drugs, their 6.7% consumption prevalence over the past year drops to 1.2% for the past week. These figures seem to indicate that one in five persons who have taken ecstasy in the past year are habitual consumers, i.e. on a weekly basis. As in the cases above, university student consumption is greater than among students in secondary education, taking the past 30 days as our reference period (3% and 1.1%, respectively).

Results for consumption of amphetamines and hallucinogens show that these are the least consumed recreational substances, which may indicate that the most widespread consumption pattern is experimental or sporadic. In the case of heroine, the annual prevalence is 0.8% and the weekly prevalence is 0.2%, so there is an experimental pattern in heroine use, although at very low rates in the population. In this case, consumption is slightly higher than in the student population between the ages of 14 and 18 (ESTUDES, 2008).

In summary, results indicate that university youth consume more addictive substances than do youth in general, and more than students in secondary education; that the substances most consumed are alcohol and cannabis, with weekly consumption; and that cocaine and ecstasy are consumed regularly (weekly) in 1.2 to 1.8% of the population. In addition, the different reports and studies speak of the multi-consumption phenomenon, where it seems clear that having contact with certain substances facilitates contact with others, and an open attitude toward drugs increases the likelihood of consuming different substances (Colder, Campbell, Ruel, Richarson & Flay, 2002; Calafat & colls., 2005; Espada, Hernández, Orgilés & Méndez, 2010).

All the above indicates that, especially on weekends, a large majority of university youth consume alcohol, in particular, and other drugs. This consumption may have initiated in prior periods and have become consolidated at university, or, it may have initiated at university. Within this context, and according to results from the validated scales on alcohol and drug consumption used in this study, approximately 25% of the sample show a profile of at-risk alcohol consumption, and these data are backed by guarantees of convergent validity with the *Self-report on Consumption of Alcohol and Other Drugs*, used in this study.

These results point to a high likelihood of future problems from alcohol abuse in today's university youth, in that alcohol consumption is more frequent and at higher doses than any of the illegal substances addressed, and alcohol toxicity in the short, medium and long term is quite high. This aspect should be present in the objectives and types of action taken in the university context toward reducing consumption and the risk that it entails.

Nonetheless, when comparing these results with data from other sources, we must keep in mind that methodological differences and the different periods during which the information was collected do not allow us to do more than point to possible trends in the differences found. On the other hand, the conditions for collecting data – anonymity, monetary compensation and the urine sample for verification of some of the self-reported information – may have encouraged more sincerity and accuracy in the subjects' reports, and in the prevalence indices obtained.

Another interesting result is that there are no appreciable differences between the sexes in the different prevalencies, whether in consumption of alcohol or other substances. Although the data from other sources do not report results of a statistical comparison between the sexes, in the percentages reported one observes greater differences between the sexes than those found in this study. This fact would indicate that differences in consumption patterns between the sexes are less marked in the youth and university populations. However, males reach inebriation with alcohol and with alcohol plus other drugs in greater proportions than do women. That is, men and women drink alcohol with similar frequency, but men drink greater quantities on each occasion.

By way of conclusion, the results reported in this study and their relation to those from other surveys administered through the *Plan Nacional Sobre Drogas* (National Plan regarding Drugs), as well as data from other European countries, confirm that the university period is when consumption of alcohol and other drugs is initiated or perpetuated, indicating that the university context is key to designing and implementing preventive actions that will modify the effect and prevalence of drug consumption among university students today.

Acknowledgments

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