Original Article

ALCOHOL CONSUMPTION AMONG STUDENTS OF A BRAZILIAN PUBLIC UNIVERSITY AND CONSEQUENCES ASSOCIATED WITH THIS CONSUMPTION

CONSUMO DE ÁLCOOL ENTRE ESTUDANTES DE UMA UNIVERSIDADE PÚBLICA BRASILEIRA E CONSEQUÊNCIAS ASSOCIADAS A ESSE CONSUMO

Tatiana Gonçalves dos REIS[1]; Luiz Carlos Marques de OLIVEIRA[2]

1. Postgraduate Program in Health Sciences, Medical School, Federal University of Uberlândia, Uberlândia, MG, Brazil; 2. Department of Internal Medicine, and Postgraduate Program in Health Sciences, Medical School, Federal University of Uberlândia, Uberlândia, MG, Brazil. oliveiralcm@ufu.br

ABSTRACT: The present study aimed to evaluate the alcohol consumption profile and behaviors and consequences associated with this consumption among university students. This cross-sectional, observational, and predictive correlational study was conducted with students from a public university in Southeastern Brazil in different course periods (first-year, middle-year and last-year students). Socio-demographic data; prevalence of use of alcohol and other drugs in the previous 12 months and in the previous 30 days; information about academic behavior; information about the negative consequences resulting from alcohol use; risk behaviors; depressive symptoms; and symptoms of psychological distress were collected. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was also used. Of all 1139 students, 91% used alcohol in their lifetime. Last-year students consumed alcohol more often than first-year students in their lifetime (93% vs 88%), in the previous 12 months (86% vs 78%) and in the previous 30 days (75% vs 66%). The prevalence of alcohol use with risk of dependence was similar among firs-year (31%), middle-year (25%) and last-year (25%) students; 84% of them did not consider this consumption to be harmful to health. The use of other drugs; the use of tobacco, marijuana or cocaine with risk of dependence; depression; psychological distress; risk behavior; and low interest in academic activities were more prevalent among students who consumed alcohol with risk of dependence, compared to those who consumed it without such risk. In conclusion, it was observed alarming frequencies and patterns of alcohol use among university students as well as negative consequences and risk behaviors associated with this consumption. Policies on alcohol use prevention should include students as soon as they enter university.

KEYWORDS: College student drinking. Illicit Drugs. Dangerous behavior.

INTRODUCTION

Adolescence is the period of life when individuals usually start experimenting on alcoholic beverages (REIS; OLIVEIRA, 2015) and when 31% of the population begin consuming them regularly (LARANJEIRA et al., 2014). The transition from adolescence to adulthood is emotionally and socially challenging and complex, and the choice of a university course creates more pressure during this period of life (ECKSCHMIDT; ANDRADE; OLIVEIRA, 2013). Upon the beginning of their university course, young adults usually encounter the difficulties of living away from their parents, changing their environment and being concerned about academic activities. These factors associated with the feeling of freedom and more opportunities to spend time with colleagues cause such individuals to be more exposed to excessive alcohol use than their peers in the general population (ECKSCHMIDT; ANDRADE; OLIVEIRA, 2013).

In Brazil, in 2009, the prevalence of lifetime alcohol use among university students of Brazilian capital cities was 86.2%, and, among all, 21.8% consumed alcohol with risk of dependence (BRASIL, 2010). This is alarming, as alcohol consumption can be associated with poorer academic performance; organic, social and behavioral problems (NEMER et al., 2013); the use of other drugs (KIRBY; BARRY, 2012; SANTOS; PEREIRA; SIQUEIRA, 2013); and possible harm to the exercise of their profession (SANTOS; PEREIRA; SIQUEIRA, 2013).

Brazilian studies on alcohol use among university students are frequently performed in state capitals (ANDRADE et al., 2012; BRASIL, 2010; SANTOS; PEREIRA; SIQUEIRA, 2013) and consumption patterns are rarely assessed according to the undergraduate course period. These facts justify more studies performed with university students from the Brazilian countryside, as socio-cultural and demographic factors create characteristics that could influence their lifestyle and behavior, including the way they drink alcohol and factors associated with its use. Thus, the present study aimed to assess the alcohol use pattern and associated factors among university students from different areas of knowledge and undergraduate

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course periods, in a public university in the Brazilian countryside. Additionally, the pattern of use of other drugs was also assessed in relation to alcohol consumption.

MATERIAL AND METHODS

Study setting and inclusion criteria of courses

A cross-sectional, observational, and predictive correlational study was performed in a public university, in Minas Gerais State, Southeastern Brazil. Both part-time (morning) and full-time undergraduate courses were included in this study, where there were last-year students for the variables analyzed to be compared to first-year and middle-year students (semesters in the middle of the course). A total of three courses were selected from each of eight areas of knowledge defined by the Coordination for the Improvement of Higher Education Personnel, CAPES, (Agricultural Sciences; Applied Social Sciences; Biological Sciences; Engineering; Exact and Earth Sciences; Health Sciences; Humanities and Social Sciences; and Linguistics, Literature and Arts). In areas where there were three or fewer courses, all of them were included, resulting in 22/34 (64.7%) courses selected. However, five courses were not authorized for data collection by coordinators/professors. As a result, 17/34 (50.0%) courses were included in this study.

Inclusion criteria of university students

All university students aged 18 years and older enrolled in the first year, middle years or last year of the courses selected, and who were present in the classroom on the day of data collection were invited to participate in this study. Data were collected between January 2013 and March 2014, during the times when mandatory disciplines were held. Students enrolled in disciplines held in different periods (n=5) were assessed in the most advanced periods of their course.

During data collection, this university included 18,658 students in three of its campuses, of which 8,917 (47.8%) were male and 9,741 (52.2%) were female. The minimum sample size was calculated considering the total number of first-year (n=2,123), middle-year (n=1,722), and last-year students (n=1,513) in the 34 eligible courses. A sample error of 5%, confidence interval of 95% (95%CI) and prevalence of lifetime alcohol use of 86% (BRASIL, 2010) were considered in this study. The minimum sample calculated was 171 first-year university students, 168 middle-year students and 165 last-year students.

Procedures

The self-administered questionnaire from the 1st National Survey on Alcohol, Tobacco and Other Drug Use Among University Students of 27 Brazilian Capital Cities (BRASIL, 2010) was used in this study, after being authorized by the National Department of Anti-Drug Policies. The following data were collected: socio-demographic data; prevalence of use of alcohol and other drugs in the previous 12 months and in the previous 30 days; information about academic behavior; information about the negative consequences resulting from alcohol use; risk behaviors; depressive symptoms; and symptoms of psychological distress. To check the reliability of the responses, the instrument used included the name of a fictional drug (Relevin®) and questionnaires in which university students reported its use were invalidated. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) included in this questionnaire was used to assess the risk of development of drug dependence, i.e. the scores obtained from four of its questions categorize users as low, moderate and high-risk for the development of drug dependence (BRASIL, 2010). In the present study, drug use with risk of dependence indicated when its consumption was “at a moderate risk” and “at a high risk” for the development of dependence. Depressive symptoms were identified using the Beck Depression Inventory II (BDI-II), which was validated in Brazil by GOMES-OLIVEIRA et al. (2012).

Data collection was performed in a classroom by one of the researchers of this study (TGR) and four medical students who had been previously trained for this. The research objectives and methods used were described to university students, and those who accepted to participate signed an Informed Consent Form and were advised not to identify themselves in the questionnaires. Of all students invited, 1,139/1,189 (95.8%) accepted to participate in this study, with similar frequencies of participation (in relation to the number of students enrolled) among students from courses of the three great areas of knowledge [Humanities (437/1,987; 22.0%), Exact sciences (353/1,704; 20.7%) and Biological/Agrarian sciences (349/1,667; 20.9%)]. Students who refused to participate, those aged less than 18 years and professors of the disciplines involved were requested to leave the classroom during data collection. Participants spent 40 minutes on average to complete the questionnaires.

Statistical analysis

Each questionnaire was analyzed to obtain the scores, coding of responses for tabulation and

adjustment of possible incoherence (conflicting responses to related questions). Data were analyzed with the SPSS version 22 and Bioestat® 5.0 software. Crude odds ratios (OR_c) and their respective 95%CI were directly calculated from the frequencies observed to identify the association between dependent and independent variables. The values of reference for these calculations were always those with the lowest relative frequencies; the percentages were calculated considering the valid responses for each item. The use of drugs, except for alcohol, in the previous 12 months and in the previous 30 days; drug use with risk of dependence, except for alcohol; academic behaviors; risk behaviors; depressive symptoms; and symptoms of psychological distress were regarded as dependent variables when assessed in relation to the alcohol use pattern. Lifetime alcohol use [consumption of a dose of alcoholic beverage (12g of alcohol) at least once in one's lifetime], in the previous 12 months and in the previous 30 days; the negative effects of alcohol use; consumption according to the pattern of heavy episodic drinking [HED (five or more doses of alcohol for men and four or more doses for women in one occasion)], the concurrent use of alcohol associated with the use of other drugs; and alcohol use with risk of dependence were considered as dependent variables when assessed in relation to the course period of university students. Alcohol use with risk of dependence was also considered to be a dependent variable when assessed in relation to socio-demographic data. In this case, the adjusted OR (OR_a) were calculated with the multiple logistic regression test, considering the variables that showed values of $p<0.20$ in the crude analysis. Only questionnaires that had responses for all variables assessed were used to calculate the OR_a. Fisher's exact test was applied when the absolute frequency of one of the variables was null, preventing the calculation of the OR. Values of $p\leq0.05$ were considered to be significant.

Ethical aspects

The present research project was approved by the institutional Research Ethics Committee under official opinion number 128694 in October 2012, and in accordance with Resolution 196/96 of the National Health Council regarding human research.

RESULTS

A total of 1,140 university students were assessed, although one was excluded as this student reported the use of the fictional drug called Relevin®. There was a predominance of female students (52.2%), aged from 18 to 23 years (81.2%), white (71.6%), who did not practice a religion (55.4%), from social classes A/B (81.0%), single/divorced (93.2%), without children (94.8%) and living with their family/partner (68.8%) (Table 1).

Table 1. Prevalence of alcohol use with risk of dependence[a] according to the ASSIST score and socio-demographic/socioeconomic profile of university students (N=1139). Uberlândia, Brazil, 2013-2014.

Variable (N[b]; %)	N	%	OR_c	95%CI	OR_a	95%CI
Sex						
Female (592; 52.2)	128	21.6	1		1	
Male (542; 47.8)	148	27.3	1.4	1.0-1.8*	1.2	0.9-1.6
Age group (years)						
18 - 23 (907; 81.2)	236	26.0	1.8	1.2-2.6**	1.7	1.1-2.7*
≥ 24 (210; 18.8)	35	16.7	1		1	
Ethnicity						
Non-white (323; 28.4)	64	19.8	1		1	
White (813; 71.6)	214	26.3	1.4	1.1-2.0*	1.2	0.9-1.7
Religion						
Practicing (504; 44.6)	95	18.8	1		1	
Not practicing (626; 55.4)	182	29.1	2.0	1.4-2.6**	1.5	1.1-2.1**
Socioeconomic class						
A/B (911; 81.0)	236	25.9	1.4	1.0-2.1	1.4	0.9-2.1
C/D/E (213;19.0)	42	19.7	1		1	
Marital status						
Married/cohabiting (77; 6.8)	8	10.4	1		1	
Single/divorced (1,062; 93.2)	272	25.6	3.0	1.4-6.2**	1.9	0.7-4.9
Children						
Yes (59; 5.2)	9	15.2	1		1	

No (1,074; 94.8)	271	25.2	1.9	0.9-3.9	0.6	0.2-1.5
Living with						
Family/partner (782; 68.8)	162	20.7	1		1	
Alone/student dormitory (354; 31.2)	117	33.0	1.9	1.4-2.5**	1.7	1.3-2.4**

ASSIST: Alcohol, Smoking and Substance Involvement Screening Test. [a]Moderate to high risk of dependence. [b]Total number is not achieved due to missing data. OR_c: Crude odds ratio. OR_a: Adjusted odds ratio. 95%CI: 95% Confidence Interval. *p<0.05; **p≤0.01. Percentages calculated considering valid responses.

Of all students, 1,034 (90.8%) consumed alcohol in their lifetime, 924 (81.1%) in the previous 12 months, and 778 (68.3%) in the previous 30 days. Last-year students used alcohol in their lifetime [286/307 (93.2%) *vs.* 356/405 (87.9%); OR:1.9; 95%CI:1.1-3.2], in the previous 12 months [264/307 (86.0%) *vs.* 315/405 (77.8%); OR:1.8; 95%CI:1.2-2.6] and in the previous 30 days [230/305 (75.4%) *vs.* 267/404 (66.1%); OR:1.6; 95%CI:1.1-2.2] more frequently than first-year students. Last-years students used alcohol in the previous 30 days [OR:1.6; 95%CI:1.1-2.2] more frequently than middle-year students [281/425 (66.1%)]. Due to alcohol use, first-year students did the following more frequently (p<0.05) than middle-year and last-year students, respectively: "were incapable of performing their assignments or studying for a test" [49/269 (18.2%); 31/284 (10.9%); 32/234 (13.7%)], "embarrassed someone or made them feel uncomfortable" [45/268 (16.8%); 25/284 (8.8%); 24/235 (10.2%)], "suddenly appeared in a place that they could not remember having entered" [40/271 (14.8%); 18/285 (6.3%); 23/234 (9.8%)], "continued to drink when they had promised they would no longer do this" [42/271 (15.5%); 18/285 (6.3%); 14/235 (6.0%)], "felt they were going insane" [59/270 (21.8%); 29/285 (10.2%); 28/234 (12.0%)] and "could not have fun" [20/270 (7.4%); 7/283 (2.5%); 9/235 (3.8%)]. First-year [25/271 (9.2%)] and middle-year students [30/285 (10.5%)] more frequently (p<0.05) "attempted to control their drinking and not to consume alcohol at certain times of the day or in certain locations" than last-year students [10/235 (4.3%)].

Among university students who had consumed alcohol in the previous 12 months, the prevalences of monthly or weekly HED were, respectively, similar among first-year [53/311 (17.0%) and 74 (23.8%)], middle-year [58/344 (16.9%) and 70 (20.4%)] and last-year students [44/263 (16.7%) and 58 (22.0%)]. In the previous 30 days, the prevalences of monthly or weekly HED were also respectively similar among first-year [49/266 (18.4%) and 80 (30.1%)], middle-year [57/279 (20.4%) and 71 (25.4%)] and last-year students [44/228 (19.3%) and 63 (27.6%)].

Of all students, 449/1,033 (43.5%) who had already consumed alcohol associated this use with the use of other drugs. This concurrent use was more prevalent (OR:1.5; 95%CI:1.1-2.0) among last-year students [142/286 (49.6%)] than middle-year students [157/391 (40.2%)], and there was a trend towards (OR:1.4; 95%CI:1.0-1.9) this being more prevalent than among first-year students [149/356 (41.8%)]; the prevalence of this association was similar between first-year and middle-year students. In the previous 12 months, the prevalences of use of other drugs associated with alcohol use were as follows: cigarettes [195 (43.4%)], marijuana/hashish/skunk [101 (22.5%)], synthetic drugs [15 (3.3%)], ecstasy [13 (2.9%)], cocaine [10 (2.2%)], tranquilizers [8 (1.8%)], antidepressants [5 (1.1%)], amphetamines [1 (0.2%)], anticholinergics [1 (0.2%)] and energy drinks [237/448 (52.9%)].

All the 814 university students who gave reasons why they consumed alcohol mentioned the following: "to have fun with friends" [617 (75.8%)], "to celebrate important occasions" [241 (29.6%)], "to enjoy the taste of a drink" [219 (26.9%)], "to relax" [177 (21.7%)], "to reduce stress" [148 (18.2%)], "to feel good" [92 (11.3%)], "to have more fun" [78 (9.6%)], "to get drunk" [69 (8.5%)], "to forget about problems" [65 (8%)], "to facilitate socialization"[49 (6%)], "to facilitate sexual encounters" [30 (3.7%)], "to alleviate depression" [18 (2.2%)] and "to be able to sleep" [13 (1.6%)].

According to the ASSIST, of all university students who had already consumed alcohol, 754 (72.9%) consumed it without risk of dependence and 280 (27.1%) consumed it with risk of dependence. Among the latter, 233/278 (83.8%) did not consider their alcohol use to be harmful to health.

In the bivariate analysis, alcohol use with risk of dependence was associated with male university students, aged between 18 and 23 years, white, who did not practice a religion, single/divorced, or living alone/in a student dormitory. In the multivariate analysis, alcohol use with risk of dependence maintained its association with the 18-to-23-year age group, who did not practice a religion and living alone/in a student dormitory (Table 1). The frequency of alcohol use

with risk of dependence was similar (p>0.05) between first-year [110/356 (30.9%)] and middle-year students [98/392 (25.0%)]; between first-year and last-year students [72/286 (25.2%)]; and between middle-year and last-year students.

In the previous 12 months, the use of the following drugs was more prevalent among students who consumed alcohol with risk of dependence than among those who did it without risk of dependence: tobacco and derivatives, marijuana/hashish/skunk, inhalants/solvents, tranquilizers, hallucinogens, cocaine, ecstasy, synthetic drugs, and anabolic steroids. In the previous 30 days, the use of the following drugs was more prevalent among students who consumed alcohol with risk of dependence than among those who consumed it without such risk: tobacco and derivatives, marijuana/hashish/skunk, inhalants/solvents, hallucinogens, ecstasy and synthetic drugs (Table 2). Among students who consumed alcohol with risk of dependence and those without such risk, the prevalences of use of the following drugs were similar, respectively: opioid analgesics (3.2% *vs*. 1.7%), amphetamines (2.5% *vs*. 1.7%), sedatives/barbiturates (1.1% *vs*. 0.4%), anticholinergics (1.1% *vs*. 0.4%), codeine-based syrups (1.1% *vs*. 0.7%), ayahuasca tea (0.4% *vs*. 0.3%) and heroin (0.4% *vs*. 0.0%).

Table 2. Prevalence of drug use in the previous 12 months and in the previous 30 days among university students who used alcohol with and without risk of dependence. Uberlândia, Brazil, 2013-2014.

Drug	Alcohol use				OR	95%CI
	Without risk		At risk[a]			
	N	%	N	%		
Previous 12 months						
Tobacco and derivatives	132	17.5	143	51.1	4.9	3.6-6.6**
Marijuana/hashish/skunk	98	13.0	85	30.5	2.9	2.1-4.1**
Inhalants/solvents	17	2.3	30	10.7	5.2	2.8-9.6**
Tranquilizers	33	4.4	22	7.9	1.9	1.1-3.3*
Hallucinogens	24	3.2	30	10.7	3.6	2.1-6.4**
Cocaine	6	0.8	10	3.6	4.6	1.7-12.8**
Ecstasy	8	1.1	16	5.7	5.6	2.4-13.4**
Synthetic drugs	6	0.8	13	4.6	6.1	2.3-16.1**
Anabolic steroids	1	0.1	5	1.8	13.7	1.6-117.7**
Previous 30 days						
Tobacco and derivatives	89	11.9	108	38.8	4.7	3.4-6.6**
Marijuana/hashish/skunk	60	8.0	61	21.8	3.2	2.2-4.7**
Inhalants/solvents	7	0.9	12	4.3	4.8	1.8-12.2**
Tranquilizers	20	2.6	14	5.0	2.0	1.0-3.9
Hallucinogens	9	1.2	14	5.0	4.4	1.9-10.2**
Cocaine	3	0.4	4	1.4	3.6	0.8-16.3
Ecstasy	5	0.7	9	3.2	5.0	1.7-15.0**
Synthetic drugs	2	0.3	5	1.8	6.9	1.3-35.8**
Anabolic steroids	0	0	4	1.4	ND	ND

[a]Moderate to high risk for the development of dependence. OR: Odds ratio. 95%CI: 95% Confidence Interval. ND: Not determined. Drugs not mentioned: merla and ketamine®. *p<0.05; **p≤0.01. Percentages calculated considering valid responses.

The following drugs used with risk of dependence were more prevalent among students who consumed alcohol with risk of dependence than among those who consumed it without such risk, respectively: tobacco/derivatives [87/174 (50.0%) *vs.* 62/261 (23.8%); OR:3.2; 95%CI:2.1-4.8], marijuana/hashish/skunk [37/121 (30.6%) *vs.* 32/161 (19.9%); OR:1.8; 95%CI:1.0-3.1] and cocaine/crack [4/27 (14.8%) *vs.* 0/28; p=0.05]. Among students who consumed alcohol with risk of dependence and those who consumed it without such risk, the prevalences of the following drugs used with risk of dependence were similar (p>0.05), respectively: hypnotics/sedatives [9/38 (23.7%) *vs.* 14/53 (26.4%)], hallucinogens [7/43 (16.3%) *vs.* 6/37 (16.2%)], opioids [6/20 (30.0%) *vs.* 5/24 (20.8%)], energy drinks [8/36 (22.2%) *vs.* 5/34 (14.7%)] and inhalants/solvents [7/65 (10.8%) *vs.* 2/74 (2.7%)].

The following were more prevalent among students who consumed alcohol with risk of dependence than among those who consumed it without such risk, respectively: to miss classes "to spend time in sports centers on campus" [4/280 (1.4%) *vs.* 1/754 (0.1%); OR:10.9; 95%CI:1.2-98.1], "to drink" [36/280 (12.9%) *vs.* 13/754 (1.7%); OR:8.4; 95%CI:4.4-16.1], and "to use drugs" [8/280 (2.9%) *vs.* 5/754 (0.7%); OR:4.4; 95%CI:1.4-13.6];

"drive under the influence of alcohol" [104/158 (65.8%) *vs.* 129/422 (30.6%); OR:4.4; 95%CI:3.0-6.4] and "carry a knife, jackknife or club" [13/271 (4.8%) *vs.* 15/721 (2.1%); OR:2.4; 95%CI:1.1-5.0]; "have already contracted sexually transmitted diseases (STD)" [21/242 (8.7%) *vs.* 28/581 (4.8%); OR:1.9; 95%CI:1.0-3.4] and "have forced someone to have sexual relations" [6/243 (2.5%) *vs.* 0/577; p<0.01]; symptoms of psychological distress in the previous month [263/273 (96.3%) *vs*. 660/722 (91.4%); OR:2.5; 95%CI:1.2-4.9] and symptoms of mild depression [71/275 (25.8%) *vs*. 135/745 (18.1%); OR:1.6; 95%CI:1.1-2.2]; however, among them, the prevalences of symptoms of moderate [21/275 (7.6%) *vs.* 40/745 (5.4%)] or severe depression [10/275 (3.6%) *vs.* 14/745 (1.9%)] were similar (p>0.05) respectively.

DISCUSSION

Prevalences of lifetime alcohol use (91%), in the previous 12 months (81%) and in the last 30 days (68%) were higher than those observed among university students in Brazilian capital cities in 2009 (86%, 72% and 60%, respectively) (BRASIL, 2010). The design of the present study does not allow establishing the reasons for the different results between the two studies. However, such differences can be the result of regional socio-cultural factors between state capitals and cities in the countryside, although it could also indicate an increase in alcohol use among university students throughout five years.

The prevalence of alcohol use was higher among last-year students than first-year students, which could have resulted from social contacts during their academic life, as "having fun with friends" was the main reason for such consumption. In the United States, a lower prevalence of alcohol use among first-year university students was also observed (TANUMIHARDJO et al., 2015), which increased throughout this first academic year (CHO et al., 2015). First-year students more frequently reported negative consequences resulting from alcohol use, which shows the high vulnerability among them regarding such consumption.

The main reasons for alcohol use were associated with interpersonal relations and well-being. These results corroborate the culture of socialization and positive expectations regarding this consumption. Another study found that alcohol use occurs more frequently on the days when university students are feeling either sad, angry or anxious (O'HARA; ARMELI; TENNEN, 2014).

The prevalences of HED were similar among university students from different course periods, which was also observed in the United States (WECHSLER et al., 1994), probably because this is the usual way to drink during social occasions. The fact that more than one fourth of all students had consumed alcohol in HED patterns weekly was alarming. HED can lead to intoxication, predisposing students to hurt or to be hurt, to cause damage to property, to have unplanned sexual practices and/or without protection, and to show risk behavior in traffic (WECHSLER et al., 1994).

Among students who had already consumed alcohol in their lifetime, 43.5% used alcohol with other drugs concomitantly. This association was more prevalent among last-year students than middle-year students and there was also a trend towards this being more prevalent than among first-year students. This could be the result of a higher frequency of use of other drugs among last-year students (results not shown). The drugs more frequently associated with alcohol use were energetic drinks, tobacco and marijuana/hashish/skunk. University students who combine alcohol use with energetic drinks consume alcohol in greater amounts and have a higher frequency of negative consequences of such use (MALLETT et al., 2015).

Among university students who had already consumed alcohol, there was a high prevalence of alcohol use with risk of dependence (27%), which was higher than that reported among students from the Federal University of Espírito Santo (19%) (SANTOS; PEREIRA; SIQUEIRA, 2013). The fact that more than 80% of students who consumed alcohol with risk of dependence did not consider this to be harmful to health is alarming, showing their negligence or lack of awareness of the risks of excessive alcohol use. In the United States, only 0.6% of university students who frequently had episodes of HED considered their consumption to be problematic (WECHSLER et al., 1994).

The multivariate analysis revealed that alcohol use with risk of dependence was more prevalent in the 18-to-23-year age group, among those who did not practice a religion, and among those who lived alone/in a student dormitory. Among university students, in other Brazilian studies it was observed that alcohol use with risk of dependence was more frequent among younger university students (SANTOS; PEREIRA; SIQUEIRA, 2013), and that religiosity can be a strongly protective factor against drug use, including the alcohol use (GOMES et al., 2013). In the United States it was also observed that college

students who do not live with their parents are more likely to engage in high-intensity drinking than their peers (PATRICK; TERRY-McELRATH, 2017), and that during the transition to college, parents may positively influence students' behaviors in relation to alcohol use (RULISON et al., 2016).

There were no differences in the prevalences of alcohol use with risk of dependence according to the course period of university students. These results show that such students had already consumed alcohol abusively in their first year and, consequently, educational institutions must implement preventive strategies as soon as they begin the undergraduate courses.

Students who consumed alcohol with risk of dependence used other drugs in the previous 12 months and in the previous 30 days, in addition to tobacco/derivatives, marijuana/hashish/skunk and cocaine/crack with risk of dependence, more frequently than those who consumed alcohol without risk of dependence. Among students who had never drunk (n=105), only one (1%) used marijuana and another (1%) used opioid analgesics in the previous 12 months. These results confirm alcohol use as a predisposing condition to the use of other drugs.

Students consuming alcohol with risk of dependence showed a “lower interest in academic activities” and “higher prevalence of risk behaviors” more frequently than students who consumed it without risk of dependence; furthermore, they had already “been contaminated by STDs” or “forced someone to have sexual relations” more frequently. Despite alcohol use predisposing individuals to high-risk sexual behavior, this substance is frequently used to facilitate sexual encounters (BELLIS et al., 2008). Additionally, alcohol can reduce one’s critical capacity and inhibition, which can lead to aggressive behavior.

Symptoms of psychological distress were reported by more than 90% of university students. This distress may be the result of an overload of academic activities (MAMAT et al., 2015), conflicts arising in the beginning of adulthood, changes in environment, and loss of interaction with parents (ECKSCHMIDT; ANDRADE; OLIVEIRA, 2013). Symptoms of psychological distress and mild depression, but not moderate or severe depression, were more prevalent among students consuming alcohol with risk of dependence than among those who consumed alcohol without such risk. This study did not enable us to determine whether mental disorders lead to alcohol abuse or vice-versa. In other studies, the association between psychological distress or depression and problematic drinking was found (OBASI; BROOKS; CAVANAGH, 2016), in addition to an association between greater psychological distress and more alcohol-related problems (MARKMAN GEISNER; LARIMER; NEIGHBORS, 2004).

One of the limitations of this study is the fact that the ASSIST categorizes alcohol use according to consumption in the previous three months prior to the investigation. Thus, it is not possible to know how long the interviewees consumed alcohol in the pattern in which they were classified. Moreover, the cross-sectional design does not enable the establishment of the cause-effect direction, although it is possible to identify the existence or not of an association between variables. University students who were present in the classroom and agreed to participate in this study were assessed. Therefore, the results may not reflect what occurs with those who are sometimes or frequently absent or who go on a leave of absence. It is impossible to know whether a student’s refusal to participate in this study was associated with drug use. The results of this study can better reflect what occurs in other universities in the Brazilian countryside, rather than being atypical. However, new studies in other universities are required to confirm this.

CONCLUSIONS

Among the university students assessed, alcohol use was frequent and it became more prevalent in more advanced course periods. There were high prevalences of HED, alcohol use associated with other drug use, alcohol and other drug use with risk of dependence, and greater vulnerability of first-year students in relation to alcohol consumption. The following were associated with alcohol use with risk of dependence: being younger, not practicing a religion or living alone/in a student dormitory.

Alcohol use with risk of dependence was associated with other drug use/abuse, lower interest in academic life, risk behaviors, symptoms of mild depression and psychological distress. Multi-professional teams that can follow and instruct university students on the risks involved with alcohol and other drug use since the beginning of their academic life can contribute to their physical, mental and social well-being and professional qualification.

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RESUMO: O presente estudo teve por objetivos avaliar os perfis do consumo alcoólico e os comportamentos e consequências associados a esse consumo entre universitários. Este estudo transversal, observacional e preditivo correlacional foi realizado com estudantes de uma universidade pública brasileira, de diferentes períodos da graduação. Foram coletados dados sociodemográficos, a prevalência do uso de álcool e de outras drogas nos prévios 12 meses e nos prévios 30 dias, informações sobre o comportamento acadêmico, informações sobre consequências negativas resultantes do uso do álcool, comportamentos de risco, sintomas de depressão e de sofrimento psicológico. Também foi utilizado o Teste para Triagem do Uso de Álcool, Tabaco e Outras Substâncias (ASSIST). Entre os 1139 universitários avaliados, 91% fizeram uso de álcool na vida. Alunos concluintes mais frequentemente do que os iniciantes, respectivamente, fizeram uso de álcool na vida (93% *vs.* 88%), nos últimos 12 meses (86% *vs.* 78%) e nos últimos 30 dias (75% *vs.* 66%). A prevalência de consumo com risco para dependência de álcool foi semelhante entre alunos iniciantes (31%), intermediários (25%) e concluintes (25%), e 84% deles não consideravam esse consumo prejudicial à saúde. Consumo de outras drogas; consumo com risco para dependência de tabaco, de maconha e de cocaína; depressão; sofrimento psicológico; comportamentos de risco, e menores interesses pelas atividades acadêmicas foram mais prevalentes entre os que faziam consumo com risco para dependência de álcool do que entre aqueles que faziam consumo sem risco. Em conclusão, foram observadas preocupantes frequências e padrões de consumos de álcool entre os universitários avaliados, bem como de consequências negativas e de comportamentos de risco associados a esse consumo. Os resultados deste estudo mostram que políticas de prevenção ao uso de álcool devem incluir os estudantes assim que ingressam na universidade.

PALAVRAS-CHAVE: Consumo de álcool na faculdade. Drogas ilícitas. Comportamento perigoso.

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