

Pattern of alcohol consumption and associated factors among adolescents students of public schools in an inner city in Brazil

Padrão de consumo de álcool e fatores associados entre adolescentes estudantes de escolas públicas em município do interior brasileiro

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ABSTRACT: Objective: To identify issues related to alcohol consumption among students from an inner city in Southeastern Brazil. **Methods:** In this cross-sectional study, 638 students from 13 to 17 years old, of which 355 (55.6%) were girls, were randomly selected in 13/40 (32.5%) public schools from November 2009 to August 2010. A structured questionnaire was used to collect personal/family data, and the Alcohol Use Disorders Identification Test (AUDIT) was used to evaluate alcohol consumption. Bivariate analysis and logistic regression were used. **Results:** It was observed that 516 (80.9%) students have used alcohol in their lifetime, and 115 (18.4%) had hazardous drinking (AUDIT \geq 8). By crude analysis, the hazardous drinking was associated with age range (16 – 17 years old), age at first alcohol consumption (\leq 12 years old), higher family income, conflicting family environment, absence of religion practice and parents that consume alcoholic beverages. By adjusted analysis, it was observed an association with the age at first alcohol consumption [\leq 12 years old, odds ratio (OR) = 2.5; 95% confidence interval (95%CI) 1.4 – 4.4]. Active sex life was more frequent among those that have used alcohol in their lifetime (OR = 3.3; 95%CI 2.0 – 5.3). Under the influence of alcohol, 22/103 (21.4%) students have not always used condoms. Among all, 25.4% believe that there is no risk in drinking, and 98% had already bought alcoholic beverages. Having the desire to drink after watching alcoholic beverage advertisements was more frequent among adolescents who had already consumed these beverages (OR = 1.7; 95%CI 1.1 – 2.6). **Conclusion:** The alcohol consumption is early and worrying among adolescents, emphasizing the need for awareness of students and their parents and carers to these risks, and also the compliance with the law prohibiting the sale of alcoholic beverages to minors.

Keywords: Adolescent. Adolescent behavior. Adolescent health. Alcohol drinking. Risk factors. Unsafe sex.

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RESUMO: *Objetivo:* Identificar aspectos relacionados ao consumo alcoólico entre estudantes de um município do interior do sudeste brasileiro. *Métodos:* Neste estudo transversal foram avaliados 638 alunos de 13 a 17 anos, sendo 355 (55,6%) meninas, escolhidos de modo randomizado em 13/40 (32,5%) escolas públicas entre novembro de 2009 e agosto de 2010. Foi utilizado um questionário estruturado para coleta de dados pessoais/familiares e o *Alcohol Use Disorders Identification Test (AUDIT)* para avaliar o consumo alcoólico. Foi usada análise bivariada e regressão logística. *Resultados:* Foi verificado que 516 (80,9%) estudantes fizeram uso de álcool na vida e 115 (18,4%) faziam consumo de risco ($AUDIT \geq 8$). Pela análise bruta, o consumo de risco associou-se à faixa etária (16 a 17 anos), idade do primeiro consumo (≤ 12 anos), maior renda familiar, ambiente familiar conflituoso, não praticar uma religião e consumo alcoólico dos pais. Pela análise ajustada observou-se associação com a idade do primeiro consumo (≤ 12 anos), sendo *odds ratio* (OR) = 2,5 e intervalo de confiança de 95% (IC95%) 1,4 – 4,4. Vida sexual foi mais frequente entre os que já fizeram uso de álcool na vida (OR = 3,3; IC95% 2,0 – 5,3). Sob efeito do álcool, 22/103 alunos (21,4%) nem sempre utilizaram preservativos. Entre todos, 25,4% acreditam que não há risco em beber e 98% já compraram bebidas alcoólicas. Sentir vontade de beber após assistir a propagandas de bebidas alcoólicas foi mais frequente entre adolescentes que já as consumiram (OR = 1,7; IC95% 1,1 – 2,6). *Conclusão:* Foi verificado preocupante e precoce consumo alcoólico entre estudantes, mostrando a necessidade tanto de conscientização dos jovens e de seus responsáveis para os riscos desse consumo, quanto de se cumprir a lei que proíbe a venda de bebidas alcoólicas a menores de idade.

Palavras-chaves: Adolescente. Comportamento do adolescente. Saúde do adolescente. Consumo de bebidas alcoólicas. Fatores de risco. Sexo sem proteção.

INTRODUCTION

The proneness to take risks and the search for new sensation in adolescence may be associated with the use of both licit and illicit substances and with potential health problems at long term¹. Their susceptibility to alcohol use associated with motivating and/or facilitating factors, such as publicity^{2,3}, low cost⁴, consumption and access granted by parents⁵ may be decisive in alcohol experimentation and abuse. Nowadays, experimentation and regular use of alcohol start in early ages worldwide^{3,6,7}.

In this phase of life, alcohol abuse inhibits neurogenesis and thus impairs brain development and neurocognitive performance. Several mental and psychosocial problems are often seen in young people who abuse alcohol^{1,8}.

The consumption of alcohol in adolescence may also increase the chances of abuse and addiction in adult life⁹, as well as be related to concomitant use of illicit substances^{9,10}. It has also been associated with traffic accidents^{4,10}, violence^{4,10,11}, low school performance⁹, risky sexual behavior¹², and unwanted pregnancy¹⁰.

In Brazil, a household survey on the use of psychotropic drugs carried out in 2005 showed that 54.3% of adolescents aging 12 – 17 years had already used alcohol, and that 7% were

probably addicted¹³. In other countries, alcohol consumption among adolescents are also concerning. In Coimbra, Portugal, 65% of 12 to 18-year-olds have used alcohol and 19% had already been drunk¹⁴; in New South Wales, Australia, 61% of 12 to 17-year-olds had already tried alcohol³, while in Germany, this frequency was 93% among 15 to 16-year-olds¹⁰.

Early use of alcohol and the increased frequency of experimentation of alcoholic beverages and its abuse among adolescents justify the need for studies to identify associated factors. In Brazil, studies on this subject have been performed more frequently in States' capitals¹⁵⁻¹⁷ and metropolitan regions^{2,5}, but some social, cultural and demographic factors may influence in adolescents' lifestyle and behavior in the countryside, including alcohol consumption.

The aim of this study was, therefore, to identify the frequency alcohol use in life and its abuse among students from public schools in a municipality of the countryside of Brazil, and the associated factors.

METHODS

This is a cross-sectional study performed in Uberlandia, Minas Gerais, Southeastern Brazil, 546 km distant from Belo Horizonte, capital of the State. Estimated population in the municipality in 2010 was 604,013 inhabitants, according to the census of IBGE (Brazilian Institute of Geography and Statistics). In 2009, 52,303 students were enrolled in public schools, in grades eligible for this study.

Students aging 13 to 17 years old, all of them being enrolled in public schools of the urban or rural regions, were assessed from November 2009 to August 2010. Students in this age group are usually enrolled in the last three grades of elementary school and three grades of high school. Among 27 elementary (ES) and high (HS) schools of the urban area, 10 (37%) were drawn by lot, being 5 located in the central area and 5 in the peripheral area of the city. In each school, a grade was chosen randomly (7th to 9th degree in elementary schools and 1st to 3rd grade in high schools). Predicting study losses, once students were supposed to agree and be authorized by parents in order to participate, in each school grade 25 students were chosen by lot based on the school's enrollment list, totaling 750 students from central schools and 750 from peripheral schools. Among 13 schools from the rural region, 3 (23.1%) were drawn by lot. Because there were less students enrolled in these schools, all of them aging 13 to 17 years were invited for the study, totaling 150 students.

First, the objective and methods of the study were explained to participants. All students who fulfilled the requirements in relation to ethical issues were included in this study. The first questionnaire applied was developed by the authors of the study, as there was no one validated for Brazil comprising questions aimed at our purposes. It was a structured, self-administered questionnaire composed of 37 items for data collection on personal, social, demographic and familial features (complementary document). Brazilian laws prohibit the consumption and sale of alcoholic beverage for anyone under 18 years old, so we assessed how students had access to alcohol for personal use.

The questionnaire Alcohol Use Disorders Identification Test (AUDIT) — also self-administered — was used to assess alcohol consumption in the past 12 months. AUDIT was developed by the World Health Organization (WHO), consists of 10 questions, and classifies individuals as to alcohol use in low risk or abstinence (score 0 – 7), risk consumption (score 8 – 15), harmful consumption (score 16 – 19), and probable alcohol dependence (score ≥ 20)¹⁸. This tool has been validated for the Brazilian population¹⁹ and has good sensitivity (0.76) and specificity (0.79) for the identification of risk consumption (score ≥ 8) among adolescents²⁰.

The questionnaires were applied by one of the authors (TGR), and students had privacy for filling the questionnaire and took on average 20 minutes for this. Minimal sample size calculated for this study was 382 students, with prevalence of alcohol use estimated in 50%, 5% error and 95% confidence interval (95%CI). The results were analyzed in the software SPSS 17.0 (IBM Inc., Chicago, IL, USA, 2008) and BioStat 5.0® (Brazil). Crude odds ratio (OR_c) and respective 95%CI were directly calculated from the frequencies observed, to identify association between dependent (alcohol use in life and risk consumption) and independent variables. “Use of alcohol in life” was the ingestion of one dose of alcohol beverage (12 g alcohol), corresponding to 150 mL of wine, 350 mL of beer or 35 mL of distilled beverages and spirits at least once.

Independent variables were: school region (urban or rural); age group (13 – 15, 16 – 17 years old); gender; family structure (core or other); family income ($\leq 3 / > 3$ minimum wages – MW); parents’ schooling (\leq ES/ \geq HS); alcohol consumption (yes or no) or use of other drugs (yes or no) by parents; authorization of parent to drink (authorize or indifferent/ do not authorize); work (yes or no); age of first contact with alcohol ($\leq 12 / \geq 13$ years old); who offered them alcohol for the first time (parents/ friends/ siblings or other relative/ others) and place of first drink (home/ party/ relative house/ others); home environment (calm/ conflicted); religion (practicing/ non practicing); sexual relations (yes or no); alcoholic beverage advertisement (attractive/ not attractive); intention to drink after watching them (yes or no). Multiple logistic regression test was used for the adjusted OR calculation (OR_a), being considered the variables whose values in crude analysis were $p < 0.20$; variables not contemplated by this statistical criterion were not considered as confounding. Only questionnaires where all questions involving these variables had been answered were used. Values of $p \leq 0.05$ were considered as significant.

Each student signed the informed consent form and required authorization of their parents by signature in order to participate. This study’s project was approved by the Ethics Committee of *Universidade Federal de Uberlândia*. The schools’ principals also approved the performance of the study. The authors declare no conflict of interest.

RESULTS

Among 1,650 students invited, 638 (38.7%) participated, being 231 (36.2%) from the central region, 326 (51.1%) from the peripheral region, and 81 (12.7%) from the rural region.

No significant differences among analyzed variables from students of peripheral and central schools were found (data not shown), and for this they formed the urban group [$n = 557$; 306/555 (55.1%) girls; two students did not inform their gender]; sociodemographic characteristics are described in Table 1. In total, 1,012 (61.3%) of the invited students did not participate in the study by reason of not bringing the signed informed consent form, absence to classes in days of questionnaire administration, and one student was not authorized by the mother.

Among all, 516 (80.9%) students had already consumed alcohol. Among 513 students reporting their age of first drink, 269 (52.4%) mentioned they were 10 to 13 years old, 204 (39.8%) 14 to 17 years old, and 40 (7.8%) younger than 10 years old. From 508 students reporting the place of first use of alcohol, 251 (49.4%) reported parties, 99 (19.5%) relatives' houses, 79 (15.6%) home, and 79 (15.6%) mentioned several other places. Among 504 students reporting by whom the alcoholic beverage was offered to them, 236 (46.8%) mentioned friends, 162 (32.1%) siblings/parents, 47 (9.3%) father or mother, and 59 (11.7%) several other sources.

Among students who had already used alcohol, 252 (48.8%) reported believing that alcohol could cause addiction, 232 (45%) said it could generate violence, and 201 (39%) mentioned it could worsen problems; however, 131 (25.4%) reported that there was no risk in alcohol consumption. Out of the 413 students who had taken alcoholic beverage in the last year, 165 (40%) reported drinking to interact with friends, 81 (19.6%) to lose the shyness, 70 (17%) to "forget problems", and 223 (54%) mentioned several other reasons (anxiety, loneliness, sadness or emotions). Their favorite beverages were distilled and spirits [270 (65.4%)], wine [200 (48.4%)], and beer [190 (46%)].

In the bivariate analysis, alcohol use in life was associated with gender (female), age group (16 – 17 years), home environment (conflicting), school region (urban), schooling (\geq HS), and alcohol consumption by the parents (yes). In the multivariate analysis, alcohol use in life was related to conflicting home environment, living in urban area, and, regarding their parents, high educational level and alcohol consumption (Table 2). The use of alcohol in life was not associated ($p = 0.14$; $OR_c = 1.8$; 95%CI 0.9 – 3.8) with the use of other drugs by the parents [63/72 (87.5%) versus 397/500 (79.4%)].

Also in the bivariate analysis, risk consumption [115/624 (18,4%) students] was associated with age group (16 – 17 years), age of the first use of alcohol (\leq 12 years), family income (> 3 MW), home environment (conflicting), religion (non practicing), and alcohol consumption by parents (yes). In the multivariate analysis, only age of the first use of alcohol (\leq 12 years) was related to risk consumption (Table 3). In total, 19/504 students (3.8%; IC95% 2.2 – 5.2) made harmful consumption of alcohol or were probable alcohol addicted.

Active sexual life is more frequent ($p = 0.00$; $OR_c = 3.3$; IC95% 2.0 – 5.3) among those who had used alcohol in life [224/509 (44%) versus 23/119 (19.3%)]. Under the effects of alcohol, 96/219 (43.8%) students had had at least one sexual relation, 33/222 (14.9%) had had first sex, 25/94 (26.6%) regretted these relations, and 22/103 (21.4%) not always had used condoms.

Overall, 432/442 (97.7%) had been able to buy alcoholic beverages, and 428/441 (97.0%) reported that they never or not always had been questioned about their age by the seller;

Table 1. Sociodemographic data of students from public schools participating in the study about alcohol consumption (n = 638), Uberlândia, 2009/2010.

Variables	Male (n = 281)		Female (n = 355)		Total (n = 638)	
	n [#]	%	n [#]	%	n [#]	%
Age group (years)						
13 – 15	158	56.6	237	66.8	397	62.4
16 – 17	121	43.4	118	33.2	239	37.6
Family income (minimum wage)						
≤ 3	95	45.2	147	63.4	242	54.6
> 3	115	54.8	85	36.6	201	45.4
Family structure						
Core	166	61.3	195	56.4	362	58.5
Others ^{##}	105	38.7	151	43.6	257	41.5
Religion						
Practicing	204	78.5	280	81.6	486	80.3
Non practicing	56	21.5	63	18.4	119	19.7
Work						
No	197	70.6	289	81.6	488	76.8
Yes	82	29.4	65	18.4	147	23.2

[#]Values do not reach total because of losses; ^{##} Father or mother, father and stepmother, mother and stepfather, or relatives.

115 students had already asked for an adult to buy alcoholic beverages for them and 105 / 114 (92.1%) reported that adults accepted buying it for them.

Regarding the alcohol use, 290 / 486 (59.7%) fathers and 265 / 499 (53.1%) mothers authorized or were indifferent to it; this tolerance was more common ($p = 0,00$; $OR_c = 1.9$; 95%CI 1.3 – 2.7) among fathers [232 / 423 (54.8%) versus 69 / 177 (39%)] and more frequent ($p < 0.00$; $OR_c = 1.97$; 95%CI 1.4 – 2.7) among mothers [166 / 312 (53.2%) versus 110 / 300 (36.7%)] who also drink. The intention to drink after watching alcoholic beverage advertisement was more common ($p = 0.00$; $OR_c = 3.6$; 95%CI 1.7 – 7.5) between students who had already used alcohol in life [106 / 511 (20.7%) versus 8 / 117 (6.8%)], and more frequent ($p < 0.00$; $OR_c = 3.4$; 95%CI 2.1 – 5.3) among those who had risk consumption [41 / 114 (36%) versus 72 / 506 (14.2%)].

Table 2. Frequency of adolescents who had used alcohol in life (n = 516) according to sociodemographic and familial data, Uberlândia, 2009/2010.

Variables	Bivariate analysis			Multivariate analysis		
	n/n [#]	%	OR _{crude} (95%CI)	n/n [#]	%	OR _{adjusted} (95%CI)
Gender						
Male	216/281	76.9	1	154/194	79.4	1
Female	299/355	84.2	1.6 (1.1 – 2.4)*	181/212	85.4	1.7 (1.0 – 3.0)
Age group (years)						
13 – 15	304/397	76.6	1	191/242	78.9	1
16 – 17	210/239	87.9	2.2 (1.4 – 3.5)**	144/164	87.8	1.8 (1.0 – 3.2)
Family income (minimum wage)						
≤ 3	191/242	78.9	1	176/221	79.6	1
> 3	171/201	85.1	1.5 (0.9 – 2.5)	159/185	86.0	1.4 (0.8 – 2.6)
Family structure						
Core	288/362	79.6	1			
Others ^{##}	211/257	82.1	1.2 (0.8 – 1.8)			
Home environment						
Calm	391/492	79.5	1	261/327	79.8	1
Conflicting	109/121	90.1	2.4 (1.2 – 4.4)*	74/79	93.7	3.7 (1.4 – 9.8)*
Religion						
Practicing	390/486	80.2	1			
Non practicing	101/119	84.9	1.4 (0.8 – 2.4)			
Work						
Yes	117/147	79.6	1			
No	397/488	81.4	1.1 (0.7 – 1.8)			
School region						
Rural	53/81	65.4	1	30/47	63.8	1
Urban	463/557	83.1	2.6 (1.6 – 4.3)**	305/359	85.0	2.1 (1.0 – 4.3)*
Parents schooling						
≤ ES	143/193	74.1	1	83/113	73.5	1
≥ HS	355/417	85.1	2.0 (1.3 – 3.0)*	252/293	86.0	2.0 (1.1 – 3.5)*
Alcohol use by parents						
No	103/145	71.0	1	77/105	73.3	1
Yes	403/482	83.6	2.1 (1.4 – 3.2)**	258/301	85.7	2.0 (1.1 – 3.4)*

[#]Values do not reach total because of losses; ^{##}Father or mother, father and stepmother, mother and stepfather, or relatives; *p ≤ 0.05; **p < 0.001; ES: elementary school; HS: high school.

Table 3. Frequency of adolescents in risk alcohol consumption (AUDIT \geq 8; n = 115), according to sociodemographic and familial data, Uberlândia, 2009/2010.

Variables	Bivariate analysis			Multivariate analysis		
	n/n [#]	%	OR _{crude} (95%CI)	n/n [#]	%	OR _{adjusted} (95%CI)
Gender						
Female	60/349	17.2	1			
Male	55/275	20.0	1.2 (0.8 – 1.8)			
Age group (years)						
13 – 15	62/389	15.9	1	36/185	19.5	1
16 – 17	53/235	22.6	1.5 (1.0 – 2.3)*	30/139	21.6	1.4 (0.8 – 2.5)
Age of first contact with alcohol (years)						
\geq 13	55/306	18.0	1	28/199	14.1	1
\leq 12	60/196	30.6	2.0 (1.3 – 3.1)**	38/125	30.4	2.7 (1.5 – 4.9)**
Family income (minimum wage)						
\leq 3	33/240	13.8	1	32/174	18.4	1
> 3	42/196	21.4	1.7 (1.0 – 2.8)*	34/150	22.7	1.3 (0.8 – 2.4)
Family structure						
Core	60/355	16.9	1			
Others ^{##}	51/252	20.2	1.2 (0.8 – 1.9)			
Home environment						
Calm	76/484	15.7	1	47/251	18.7	1
Conflicting	37/123	30.1	2.3 (1.5 – 3.6)**	19/73	26.0	1.3 (0.7 – 2.4)
Religion						
Practicing	74/476	15.6	1	47/262	17.9	1
Non practicing	33/118	28.0	2.1 (1.3 – 3.4)**	19/62	30.6	1.8 (0.9 – 3.4)
Work						
No	81/479	16.9	1	50/250	20.0	1
Yes	33/145	22.8	1.4 (0.9 – 2.3)	16/74	21.6	1.1 (0.6 – 2.1)
School region						
Rural	14/81	17.3	1			
Urban	101/545	18.5	1.1 (0.6 – 2.0)			
Alcohol use by parents						
No	17/143	11.9	1	12/73	16.4	1
Yes	96/472	20.3	1.9 (1.1 – 3.3)*	54/251	21.5	1.3 (0.6 – 2.7)

[#]Values do not reach total because of losses; ^{##}Father or mother, father and stepmother, mother and stepfather, or relatives; *p \leq 0.05; **p < 0.001; ES: elementary school; HS: high school.

DISCUSSION

The frequency of alcohol use in life (81%) was higher than that observed among adolescents in multicenter studies carried out in Brazil in 2001 (48.3%)²¹ and 2005 (54.3%; 60.8% in Southeast region)¹³, higher than those verified in Belo Horizonte, Minas Gerais, in 2009 (74%)¹⁶, and lower than those described among students enrolled in private schools of Sao Paulo in 2008 (88%)²². Differences can be due to social, cultural and demographic factors, but also to an increase in the frequency of experimentation of alcoholic beverages. The frequency of use in life is higher than that described in Portugal (50%⁷ and 65%¹⁴) and lower than that observed in Germany (90%)⁶.

Early use of alcohol observed in this study was also found in others carried out in Brazil^{5,23}, Portugal⁷, and Germany¹⁰. Early consumption of alcoholic beverage may increase the chances of harmful consumption in adolescence²³, and, in our sample, students who are already risk consumption had the first experimentation of alcohol more often before 12 years of age.

High frequencies of alcohol use in life and risk consumption were similar between boys and girls. Female body is more prone to the harmful effects of alcohol²⁴, its use may cause negligence with contraception and even its use can occur during pregnancy. Other studies showed higher frequencies of experimentation of alcohol among girls^{7,16}, but drunken episodes¹⁶, risk²⁵ and regular⁷ consumption were more common among boys.

First contact with alcohol was more commonly in parties, the drinks had been offered by friends and used for social interaction. Relationship with friends who make use of alcohol is a predisposing factor to its use^{5,7,26,27}, and the drinks are often used to make social interaction easier¹⁷. Many students believe that there are no risk in alcohol consumption, and it was also observed in 13.3% of adolescents from Porto, Portugal²⁶. This highlights the need for awareness programs aimed at adolescents, since the knowledge of the possible harmful effects of alcohol is considered preventive factor against drunkenness¹⁴.

Favorite beverages were distilled and spirits, which may be related to low cost and high alcohol concentration, leading the adolescents to feel the effects faster and more intensely, with higher risk of intoxication. Fruit flavors added to these drinks may also contribute with such fact, especially among girls. After adjusted analysis, family income and structure, and work were not associated with the patterns analyzed for alcohol consumption. These results differ from other studies, where adolescents with lower income²⁸, who work^{15,25,28} and have separated parents¹⁵ had more chances of using or abusing alcohol. Among students enrolled in private schools of Sao Paulo, higher rates of alcohol use were observed among those from higher social groups²².

Use of alcohol in life, but not risk consumption, was associated with conflicting home environment. It is possible that due to psychological distress adolescents use alcoholic beverages as an escape to their problems¹⁷. Other studies also showed that conflicting family environments is a predisposing factor to heavy drinking^{9,10,15}. Although religiosity and spirituality have been reported to be protective factors against alcohol use and abuse^{15,28,29}, this association was not evident in this study. Adolescents living in urban areas more often use alcohol in life, but risk consumption is similar to that observed in rural areas. In a national study, frequencies of

alcohol abuse or addiction were similar among adolescents living in urban and rural areas, but drunkenness was more common in urban areas³⁰. In rural areas, the low availability of social activities and access to alcohol may hinder adolescents from experimenting, but once alcohol consumption is initiated, it tends to be similar to that observed in urban areas. In Germany⁶ and France³¹, risk consumption and drunkenness are more common among adolescents living in rural areas, which may reflect a cultural pattern or modes of socialization.

Use of alcohol in life is more frequent among students whose parents have higher schooling, as also observed in Portugal⁷. One may suppose that higher schooling, and consequently higher income would make access to alcohol easier for adolescents; however, we did not find relations between alcohol use and family income in our study.

Experimentation is more frequent among adolescents whose parents drink, as also observed in a municipality in Southern Brazil⁵. In this situation, the adolescent may consider alcohol use as a natural activity. Also, fathers and mothers who use alcohol are more likely to authorize their son's drinking. On the other hand, other studies showed that rules and monitoring by parents are protective factors against alcohol use initiation^{27,32}.

Active sexual life is more frequent among those who already used alcohol in life, as also seen in Portugal²⁶. This may be due to the effects of disinhibition caused by alcohol. Many adolescents reported regretting sexual relation under alcohol effect, as also observed in girls from Germany¹⁰. Alcohol also decreases a person's critical capacity, so they can behave differently than they would when sober. Many students under the effect of alcohol mentioned not always using condoms, and adolescents under alcohol effect are the ones who more practice unprotected sex¹².

Almost all students who tried to buy alcoholic beverages and over 90% of those who asked for an adult to do it for them were successful. It shows the need of population awareness about the risks involving early alcohol use, and the need of compliance with laws prohibiting alcohol for people less than 18 years old.

The intention to use alcohol after watching alcoholic beverage advertisings is more common among those who already experimented alcoholic beverages. The cross-sectional design of this study cannot be relied on to conclude whether these advertisings stimulate drinking or those who already drink give more attention to them. These advertisings are said to strongly influence alcohol consumption, and the reduction of this type of publicity could cause a decline in consumption^{2,33}.

Among the limitations of the study are the cross-sectional design, which not always enables to establish a cause-effect relation, but allows to conclude the existence or not of a relation among the analyzed variables. The use of a questionnaire makes information omission easier; however, as responses were anonym, participants could feel more comfortable to write down personal matters. The urban schools included in this study were drawn by lot, not conglomerate; however, we believe that this had no influence on the results, once there were no differences between students of these schools for any of the variables studied. We did not assess the frequency of condom use among abstainers, which do not permit verifying the influence of alcohol in negligence of its use. There was a important loss in study due to refusal of students in participating, but the final sample was higher than the minimal sample size calculated for this

study, with similar number of boys and girls. Students enrolled in public schools and present in the classroom at questionnaire administration, who agreed to participate, were assessed; thus, results may not reflect the reality of students from private schools, of students who are usually absent in school, of those not enrolled in schools, or even those who stopped attending school. Our findings are more likely to represent what happens in other countryside cities of Brazil than to be atypical, and it should be confirmed by further studies in other regions of the country.

CONCLUSION

We observed a frequent and early consumption of alcohol among the students assessed. After variables adjustment, only early alcohol consumption was significantly associated with risk consumption. Parents' authorization and easy access to alcohol also contribute with its use. Results show the need to implement awareness programs on the risks of alcohol consumption in adolescence for the population, especially young people and parents/caregivers. Prevention programs should be implemented in all schools. We must also demand compliance with the laws prohibiting the sale and consumption of alcoholic beverage for those under 18 years old.

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