



PREVALENCE OF ALCOHOL USE AMONG ADOLESCENT STUDENTS

PREVALÊNCIA DE USO DO ÁLCOOL ENTRE ESTUDANTES ADOLESCENTES

PREVALENCIA DE USO DEL ALCOHOL ENTRE ESTUDIANTES ADOLESCENTES

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ABSTRACT

Objective: to analyze alcohol use among adolescent students. **Method:** descriptive, quantitative, study with a sample of 499 adolescent students in the municipality of Cajazeiras, Paraíba, Brazil. The “Alcohol Use Disorders Identification Test” (AUDIT) and a demographic questionnaire were used. Data underwent multivariate ordinal logistic regression. Study approved by the Research Ethics Committee of the School of Medicine of ABC (FMABC), under the Protocol 324,312. **Results:** 7.8% of participants were at the low-risk zone; 31.1% were at the use of risk zone; 3% were at the use harmful to health zone; and 58.1% were at the possible alcohol dependence zone. **Conclusion:** 460 participants (92.2%) had negative rates of alcohol use. Individuals aged over 18 years had higher chances of high alcohol consumption, as well as students at the 3rd High School grade and those with no religion. **Descriptors:** Alcoholism; Adolescent Health; Students.

RESUMO

Objetivo: analisar o uso do álcool entre estudantes adolescentes. **Método:** estudo descritivo, quantitativo, com amostra de 499 estudantes adolescentes do município de Cajazeiras (PB). Foi utilizado o “Alcohol Use Disorders Identification Test” (AUDIT) e um questionário demográfico. Os dados foram submetidos a regressão logística ordinal multivariada. Estudo aprovado pelo Comitê de Ética em Pesquisa da Faculdade de Medicina do ABC (FMABC), sob o Protocolo n. 324.312. **Resultados:** 7,8% dos participantes estavam na zona de baixo risco; 31,1% estavam na zona de uso de risco; 3% estavam na zona de uso nocivo à saúde; e 58,1% estavam na zona de possível dependência do álcool. **Conclusão:** 460 participantes (92,2%) apresentaram índices negativos de uso do álcool. Indivíduos com mais de 18 anos apresentaram maior chance de alto consumo do álcool, assim como alunos do 3º ano do Ensino Médio e aqueles sem nenhuma religião. **Descritores:** Alcoolismo; Saúde do Adolescente; Estudantes.

RESUMEN

Objetivo: analizar el uso del alcohol entre estudiantes adolescentes. **Método:** estudio descriptivo, cuantitativo, con muestra de 499 estudiantes adolescentes en el municipio de Cajazeiras, Paraíba, Brasil. Se utilizaron el “Alcohol Use Disorders Identification Test” (AUDIT) y un cuestionario demográfico. Los datos se sometieron a regresión logística ordinal multivariante. Estudio aprobado por el Comité de Ética en Investigación de la Escuela de Medicina de ABC (FMABC), bajo el Protocolo 324.312. **Resultados:** 7,8% de los participantes estaban en la zona de bajo riesgo; 31,1% en la zona de uso de riesgo; 3% estaban en la zona de uso nocivo a la salud; y 58,1% estaban en la zona de posible dependencia del alcohol. **Conclusión:** 460 participantes (92,2%) tuvieron tasas negativas de consumo del alcohol. Los individuos mayores de 18 años tuvieron mayor probabilidad de alto consumo del alcohol, así como estudiantes del tercer grado de educación secundaria y los que no tienen ninguna religión. **Descriptor:** Alcoholismo; Salud del Adolescente; Estudiantes.

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INTRODUCTION

Alcohol is a drug that acts on the central nervous system, causing behavioral changes in the person who consume it. Soon after its ingestion, there is a sense of euphoria and disinhibition; subsequently, arise depressant effects, such as lack of motor coordination, sleep, change in speech etc. At very high concentrations, the individual may become comatose or even die.¹

Excessive alcohol consumption is regarded as a public health problem. The use of this substance starts, especially, during adolescence¹⁻³ and its consumption has been increasing, mainly among female adolescents from 12 to 15 years.⁴

A population segment particularly vulnerable to the use of alcoholic beverages and other psychotropic substances and its consequent problems are adolescents. As they are undergoing development and do not know how to properly evaluate such consumption, this group is subject to 3 important issues: legal, due to the consumption of drugs like beer and cigarettes, which are prohibited for minors under 18 years; social, related to non-compliance with school obligations, involvement in risky situations, and difficulties in family relationships; and those related to health, arising from the premature use of such substances.⁵⁻⁶

Alcohol is the first drug used by adolescents and excessive use predisposes to the use of other types of drug.^{2,6} In addition, alcohol increases the chance of death related to accidents such as those involving automobiles, sexual violence, school absenteeism, deficit in learning, family problems, among others.⁷ Given this, health professionals have to take actions that prioritize changing consumption patterns, decreasing the amounts consumed, and reducing the subsequent health damage.⁸ However, for this, there is a need for constant researches that seek to identify alcohol dependence frames among populations.

Thus, this article aims to analyze alcohol use among adolescent students. We identified the incidence of consumption and the degree of dependence on this substance, as well as associated factors.

METHOD

Article prepared from the dissertation << **Prevalence of alcohol use among students** >>, submitted to the School of Medicine of ABC. Santo André-SP, Brazil. 2014.

This study has a cross-sectional design with a quantitative approach, it was carried out in the municipality of Cajazeiras, Paraíba, Brazil, which has a population of 58,437 inhabitants, according to data from the Brazilian Institute of Geography and Statistics (IBGE) referring to 2010; out of these, 3,625 are High School students attending public or private schools.

The sample was probabilistic and it consisted of 499 adolescent students. First, we defined the sampling fraction and the number of elements to be observed in each stratum, then, simple random sampling was performed in each of the strata from which the elements were chosen.

The questionnaire was applied in schools in Cajazeiras by the authors of this study and by 10 interviewers, then Nursing students, properly trained and participating in the university outreach project "Preventing childhood obesity among students", of Faculdade Santa Maria (FSM). The specific study sites were the classrooms, in the morning, afternoon, and night shifts.

The inclusion criteria were having understood the questions in the instrument, after prior reading by researchers or collaborators, and being present on site during data collection. Participants confirmed their participation by signing the free and informed consent term. The study was approved by the Research Ethics Committee of the School of Medicine of ABC (FMABC), under the Protocol 324,312.

The data collection form consisted of two parts, the first concerning demographic information and the second concerning alcohol abuse. For the latter, we used the "Alcohol Use Disorders Identification Test" (AUDIT), an instrument developed by the World Health Organization (WHO) and recommended as a simple screening method for excessive use of alcohol.⁹

AUDIT is a user-friendly questionnaire, consisting of 10 variables, according to the definition of the 10th edition of the "International Statistical Classification of Diseases and Related Health Problems" (ICD-10) of harmful and hazardous alcohol use and alcohol dependence. In Brazil, it was validated by Mendes¹⁰, who found a sensitivity of 87.8% and a specificity of 81% for harmful and hazardous use, dependence syndrome, and withdrawal state. The answers to each question are scored from 0 to 4, and the highest scores indicate problems related to alcohol use. AUDIT classifies the user into 4 risk zones, according to the score obtained:

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zone I (up to 7 points: indicates low-risk use or abstinence); zone II (from 8 to 15 points: indicates use of risk); zone III (from 16 to 19 points: suggests harmful and hazardous use); and zone IV (above 20 points: indicates a possible dependence).

Data were recorded in the database of the *Statistical Package for the Social Sciences* (SPSS), version 21.0. Multivariate ordinal logistic regression was performed with adjustment of effects by demographic variables and the effects were presented by means of the odds ratio (OR). We accepted an error up to 5%.

RESULTS

The results showed that 39 adolescent students [7.8% (CI 95% 5.77%-10.51%)] were at the low-risk zone, 155 [31.1% (CI 95% 27.16%-35.25%)] at the use of risk zone, 15 [3% (CI 95% 1.83%-4.90%)] at zone III, which already indicates a harmful and hazardous use, and 290 [58.1% (CI 95% 53.74%-62.37%)] were located at zone IV, which indicates possible dependence. When considering the negative use as a score greater than 8, the prevalence was 92.2% (CI 95% 89.46%-94.23%), i.e. 460 students had negative rates of use.^{2,11}

Table 1 displays the results of associations between risk zones in face of consumption of alcoholic beverages and the sample

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demographic variables. Zone I was taken as reference for comparisons between the OR of the other variables. Men were more likely to be dependent, however, this result was not significant [OR for zone II (1.15); zone III (3.09); zone IV (2.09); $p > 0.05$].

Regarding age, students over 18 years of age are more likely to be at zones II, III, and IV. For instance, those over 18 years of age were 46.33 ($p < 0.05$) times more likely to be at zone III than at zone I. However, what seems to be a matter of concern is that this effect drops significantly when we compare zone IV and zone I, those over 18 years of age are only 2.8 times more likely to be at the dependence zone (zone IV) when compared to those under 18 years of age, also failing to show a significant effect ($p > 0.05$).

Concerning education, 3rd grade students were 4.34 times more likely to be at zone II ($p < 0.05$), for the other zones no significant results were found. Another significant result ($p < 0.05$) was that adolescents who reported having no religion were 4.35 times more likely to be at zone III and 2.75 were more likely to be at zone IV.

Table 1. Characterization of participants, according to the variables.

	N	%	p	OR	CI
Zone II					
Gender					
Male	91	41.3	0.71	1.15	0.54-2.41
Female	64	58.7			
Age					
> 18 years	105	67.7	0.01	4.63	1.41-8.15
≤ 18 years	50	32.3			
Educational level					
1st High School grade	43	27.7	0.55	1.38	0.24-2.12
2nd High School grade	74	47.7			
3rd High School grade	38	24.5			
Type of school					
Private	38	24.5	0.58	1.27	0.54-3.00
Public	117	75.5			
Marital status					
Single	123	79.4	0.16	3.03	0.64-14.34
Cohabitant	32	20.6			
Religion					
With religion	119	76.8	0.26	1.7	0.67-4.30
With no religion	36	23.2			
Zone III					
Gender					
Male	3	20	0.13	3.09	0.70-13.47
Female	12	80			
Age					
>18 years	3	20	0.01	46.33	7.08-303.01
≤ 18 years	12	80			
Educational level					
1st High School grade	2	13.3	0.31	2.8	0.38-20.52
2nd High School grade	4	26.7			
3rd High School grade	9	60			
Type of school					
Private	0	0	**	**	**

English/Portuguese

Public	15	100			
Marital status					
Single	15	100	**	**	**
Cohabitant	0	0			
Religion					
With religion	9	60	0.01	4.35	1.06-14.81
With no religion	6	40			
Zone IV					
Gender					
Male	121	41.7	0.11	2.09	0.40-11.37
Female	169	58.3			
Age					
>18 years	230	79.3	0.07	2.8	0.89-8.77
≤ 18 years	60	20.7			
Educational level					
1st High School grade	110	37.9			
2nd High School grade	90	31	0.99	0.99	0.43-2.30
3rd High School grade	90	31	0.91	0.94	0.36-2.46
Type of school					
Private	109	37.6	0.86	0.93	0.42-2.04
Public	175	60.3			
Marital status					
Single	274	94.5	0.69	0.72	0.14-3.62
Cohabitant	16	5.5			
Religion					
With religion	243	83.8	0.02	2.75	1.12-6.74
With no religion	47	16.2			

OR: Odds ratio.
CI: Confidence interval.
** Values not estimated, because there was occurrence of frequencies equal to zero.

DISCUSSION

Individuals dependent on alcohol may develop many diseases, among which those in liver (fatty liver disease, alcoholic hepatitis, and cirrhosis). Other health problems, such as in the digestive system (gastritis, malabsorption syndrome, and pancreatitis), in the cardiovascular (hypertension and heart problems) and nervous system indicate the need for a comprehensive study in the public health field.

The sample of this study showed a high percentage of students at the probable withdrawal zone (58.1%). By adopting a sample division between people who make problematic use of alcohol, it becomes clear that the sample of this study brings higher percentages of negative use (92.2%) than those found by surveys that worked with samples from other Brazilian municipalities.² In a study conducted in the countryside of the state of Paraná, it was found out that 65.41% of High School students scored above 8 points on the AUDIT scale.² Another study, carried out in the countryside of the state of São Paulo, reported a percentage of 84% of students.¹⁰ Other studies indicate the possibility of large variability in the prevalence of problematic alcohol use among adolescents; one of them reports high variability in the use of alcohol and other drugs in various countries and it suggests that transactional surveys are conducted, in order to provide a scientific basis for the adoption

of policies and practices to contribute reducing the rates of alcohol consumption during adolescence.¹⁰

For providing more robust results and a possible operationalization of results, the 4 zones established by AUDIT were compared to demographic data of the sample. In some studies^{2,11}, the AUDIT scores were divided into 2 groups, named *problematic* or *non-problematic alcohol use*, but, for this study, we chose to work with the 4 zones suggested in the validation of this questionnaire.⁹

Out of 6 variables tested (gender, age, educational level, type of school, marital status, and religion), gender, type of school, and marital status had no significant effect. Some of these results seem to corroborate other studies², which did not identify any association between alcohol consumption level and the fact of attending a public or private school; the same happened with the marital status, with no significant relation to alcohol abuse.^{12,13}

However, the relation between gender and amount of alcohol intake has been observed by other national and international surveys. A national study concludes that even not constituting a majority most those who have problematic use of alcohol, women will grow faster than men, possibly due to the social emancipation of this group.¹⁴ Another study reports a significant association of this variable, i.e. men drink more alcohol than women.¹¹ Men seem to drink more in many cultures, several studies point out that the

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dominating position taken by men and the association of alcohol to moments of relaxation, unwinding, and rest exert heavy control over this reality.^{11,15,16}

However, there are also reports of the progressive increased consumption among women.⁵ The alcohol consumption pattern among women tends to change as their role becomes similar to that of men in society.¹⁷ A study conducted in 30 countries showed that men have higher consumption and that in low-income countries men are more likely to engage in social problems after using alcohol.¹⁸

As for the results related to age, there are studies showing a direct relation to alcohol consumption¹² or an inverse relation.¹³ It is possible that the relation between age and alcohol consumption exists, but not linearly as pointed out by some studies, thus, we may think of a curvilinear relation (quadratic in mathematical terms) where consumption increases up to a certain age group and, then, starts falling. This might partly explain why, in this study, those over 18 years of age were more likely to alcohol abuse. One of the reasons for the higher consumption of alcoholic beverages by this population might be the influence of advertisements.¹⁹ In fact, studies have shown that exposure to television media predicts the onset of alcohol abuse.²⁰

The results of this study show that those over 18 years of age are more likely to alcohol abuse, but what seems to be a matter of concern is that the difference between consumption drops when the comparison takes place at zone IV. The group of younger individuals gets closer to that of older individuals in terms of consumption amount when we compare the zone with higher alcohol intake, coming from 46.33 ($p < 0.05$) at zone II to 2.8 at zone IV. Researches have shown that people who start using alcohol early are more likely to consume other types of drug.²¹

Another variable that showed a significant alcohol consumption effect was the educational level: 3rd grade students were more likely to fall into zone II. Just like in age, the literature presents some controversy regarding this relation and the population strata derived from educational level.¹¹ Seemingly, people with higher levels of educational levels tend to take attitudes rather aimed at health.¹⁶ However, some studies show higher prevalence rates in groups with lower educational level^{12,22}, while others found out an association with strata having higher educational level.^{13,23}

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The last variable that showed a significant relation was religion. People who declare to have some religion were less likely to consume alcohol at harmful levels. This result confirms other findings. A study¹¹ reported a greater chance of people from non-Protestant religion to consume more alcohol. Another study conducted with adolescents²⁴ found lower odds ratio for alcohol abuse among those who maintain ties with religious groups. This may be due to the strong influence that churches have on their believers, by prohibiting them to consume alcohol¹¹; in addition, this inductive attribute seems to be even stronger in towns in the countryside, as in the case of this study.

Finally, alcohol consumption affects not only the individual, but the entire society, resulting in an avoidable high social cost; reducing alcohol-related problems is an immediate need, a public health focus in the Brazilian scenario.

The study revealed that most adolescents were at zone IV, indicating possible dependence on alcohol consumption. When we considered only the dichotomy between problematic and non-problematic use of alcohol, there was a much higher percentage than in the studies reported. By relating consumption to the demographic variables, such as gender, age, and educational level, it was found that those over 18 years of age were more likely to be at zone III than at zone I, that 3rd grade students are more likely to be at zone II and that people who declared themselves as having no religion were more likely to be at zone IV.

Another result worth emphasizing is that younger individuals showed great difference from those over 18 years of age only in terms of low consumption. Something showing that fewer adolescents under 18 years of age drink, however, they have a greater chance of making problematic use of alcoholic beverages. Thus, this study highlights the importance of intensifying public programs and policies that repress the use of drugs by younger individuals.

CONCLUSION

Individuals > 18 years, 3rd grade High School students, and those who reported having no religion were more likely to high alcohol consumption. And most participants (92.2%) had negative rates for alcohol dependence.

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