

ORIGINAL ARTICLE

LEVELS OF ALCOHOL CONSUMPTION IN UNIVERSITY STUDENTS IN THE NORTHERN REGION OF PORTUGAL

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ABSTRACT

Objective: To assess and present the prevalence levels of alcohol consumption in university students in the northern region of Portugal.

Method: A descriptive-correlational, quantitative, cross-sectional, “snowball” study was conducted between February and March 2019, including students older than 18 years and enrolled in universities in northern Portugal.


Results: The sample was composed of 570 individuals, aged between 18 and 63; 70.7% were female, 15.7% reported heavy drinking, with Portuguese students consuming less. Of all individuals, 81.4% are at risk level I; 1.6% at level II; 2.6% at level III; 1.4% at level IV. Males consume more at zones II, III, and IV and females at zone I.


Conclusion: Findings show that the majority of university students consume at levels recommended by the World Health Organization but a considerable amount of students drinks at levels that can damage their health and their academic performance severely.


DESCRIPTORS: Students; Alcohol Drinking in college; Universities; Substance Abuse; Alcoholic Beverages.


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NÍVEIS DE CONSUMO DE ÁLCOOL EM MEIO UNIVERSITÁRIO DISCENTE NA REGIÃO NORTE DE PORTUGAL

RESUMO

Objetivo: apresentar prevalência e níveis de consumo de álcool em estudantes universitários da zona norte de Portugal.

Método: estudo descritivo-correlacional, quantitativo, transversal, tipo “bola de neve”, desenvolvido entre fevereiro e março de 2019, com estudantes inscritos nas universidades do norte de Portugal e maiores de 18 anos.

Resultados: amostra com 570 indivíduos, idade entre 18 e 63; 70,7% do sexo feminino, 15,7% reporta consumo excessivo, sendo os estudantes portugueses que consomem menos. 81,4% encontram-se no nível I de consumo; 1,6% no nível II; 2,6% nível III; 1,4% nível IV. O sexo masculino consome mais na zona II, III e IV e o sexo feminino na zona I.

Conclusão: podemos concluir que a maioria dos estudantes universitários consome em níveis recomendados pela OMS mas existe uma percentagem considerável cujo nível de consumo pode levar a danos significativos à saúde dos estudantes, como ao seu desempenho acadêmico.

DESCRITORES: Estudantes; Consumo de Álcool na Faculdade; Universidade; Uso Indevido de Substâncias; Álcool.

NIVELES DE CONSUMO DE ALCOHOL EN ESTUDIANTES UNIVERSITARIOS DE LA REGIÓN NORTE DE PORTUGAL

RESUMEN:

Objetivo: presentar prevalencia y niveles de consumo de alcohol en estudiantes universitarios del norte de Portugal.

Método: estudio descriptivo-correlativo, cuantitativo, transversal, “bola de nieve”, desarrollado entre febrero y marzo de 2019, estudiantes matriculados en universidades del norte de Portugal y mayores de 18 años.

Resultados: muestra con 570 individuos, de entre 18 y 63 años; El 70,7% de las mujeres, el 15,7% reportaron consumo excesivo y los estudiantes portugueses consumen menos. 81,4% están en el nivel de consumo I; 1,6% en el nivel II; 2,6% nivel III; 1.4% nivel IV. Los machos consumen más en las zonas II, III y IV y las hembras en la zona I.

Conclusión: podemos concluir que la mayoría de los estudiantes universitarios consumen en los niveles recomendados por quién, pero hay un porcentaje considerable que su nivel de consumo puede conducir a un daño significativo a la salud de los estudiantes, como su rendimiento académico.

DESCRIPTORES: Estudiantes; Consumo de alcohol en la universidad; Universidad; Uso indebido de sustancias; Alcohol.

INTRODUCTION

Alcohol consumption has been, for centuries, humanity's legal and socially accepted habit, associated with immediate gratification, relaxation, and easy sociability. It is the third risk factor for hypertension, smoking, and morbidity, and its abuse increases mortality and disability. Women and older people are not frequent drinkers, not exceeding 20 grams of alcohol per day, while men consume 30 grams of alcohol per day⁽¹⁾.

Worldwide, alcohol consumption is associated with disability and premature death. In people between 20 and 39 years old, about 13.5% of deaths are due to alcohol consumption⁽¹⁾, and evidence shows a prevalence of harmful alcohol use in university students⁽²⁾. In Portugal, about 8% to 10% of deaths of people between 15 and 74 years old are directly linked to alcohol consumption⁽³⁾. An estimated 10% of the population are not drinkers or just occasional consumers⁽³⁾. According to the Portuguese National Institute of Statistics (INE), in 2017, there were 2,442 deaths from alcohol-related diseases in Portugal⁽⁴⁾.

Studies have shown a substantial increase in alcohol consumption among adolescents and young people⁽³⁾, and the predominant use of this addictive substance by university students⁽⁵⁾. In recent years, legal measures have been implemented in Portugal to minimize problems related to alcohol consumption in young people and adults. In this sense, health professionals need to monitor alcohol consumption to be able to intervene for the reduction of alcohol use and abuse⁽³⁾.

A North-American literature review, published by the National Institute of Health (NIH)⁽²⁾, showed that the first years of college are a particular transition period. University students have new experiences, such as moving to a new home or even a new city, living with other students, thus becoming more independent and autonomous in decision making. These changes in their social dynamics can promote alcohol use and abuse and increase alcohol-related risks^(6,7). Given this, college admission has been considered a critical period, where students are more vulnerable to begin and continue to use and abuse alcohol, tobacco, and other drugs. This means that students starting university, without the supervision of family members, are more prone to change drinking habits^(6,7).

Given that alcohol use and abuse have been a concerning matter in Europe, it is important to identify the consumption habits, consequences, and symptoms of dependence in university students, to understand their behavior strategies and vulnerabilities. Therefore, the main objective of this study is to present data on the prevalence of alcohol consumption in university students in the northern region of Portugal and correlate them with the demographic data and their area of residence.

METHOD

A descriptive-correlational, quantitative, cross-sectional study was conducted with a non-probabilistic, "snowball" sample design. All participants were informed about the study's objectives and agreed to participate in the study, filling out the online questionnaire. The fundamental principles set out by the Helsinki Declaration and Oviedo Convention were ensured. Data were collected during February and March 2019. Sociodemographic data of the university students included age, gender, marital status, living arrangements, and course year.

The study included 570 university students over 18 years of age and from four universities in northern Portugal. The following inclusion criteria were set to select the non-probabilistic, convenience sample: over 18 years old and enrolled in a university in northern Portugal.

An online questionnaire was used for data collection, using Google Forms, composed of two instruments. The first was the Students' Sociodemographic Characterization Questionnaire, developed specifically for this study, consisting of questions for a better characterization of students, including name, age, gender, marital status, living arrangements, course, and course year. The second was The Alcohol Use Disorders Identification Test (AUDIT)⁽⁸⁾, an internationally recognized screening tool developed by the World Health Organization (WHO) in the 1980s, with the objective of identifying, in health services of different levels and contexts, the risk for harmful alcohol drinking. The use of this questionnaire is recommended by the Portuguese National Plan for the Reduction of Addictions and Addictive Behaviors⁽⁹⁾ and regulation no. 30 of the Portuguese Directorate-General for Health (DGS)⁽¹⁰⁾.

The AUDIT has been validated for the Portuguese context⁽¹¹⁾ and has a sensitivity ranging from 92% to 98%. In the initial evaluation, a Cronbach's alpha of 0.736 was observed, and the correlation values of the items with the total dimension vary between -0.153 and 0.747. In this study, a Cronbach's alpha of 0.753 was obtained. The AUDIT allows identifying hazardous drinking, harmful use, and alcohol dependence⁽⁸⁾, consisting of 10 questions relating to the characterization of alcohol consumption, its consequences, and symptoms of dependence. The total of the answers corresponds to scores that are interpreted according to risk zones.

The low-risk use or abstinence (Zone I) correspond to a score of 0 to 7 points. Moderate-risk use (Zone II) corresponds to a score of 8 to 15. Harmful use (Zone III) corresponds to a score of 16 to 19. The individuals falling into this zone probably already have a problem. Scores from 20 to 40 (Zone IV) indicate a probable dependence, according to Table 1.

Table 1 - General guidelines for risk assignment based on AUDIT assessment. Porto, Portugal, 2020

Risk level	Intervention	AUDIT score
Zone I	Education	0-7
Zone II	Simple counseling	8-15
Zone III	Simple counseling + Brief counseling + Continuous monitoring	16-19
Zone IV	Refer to a specialist and treatment	20-40

Source: Adapted from Babor et al. (2001)

The link to the questionnaire was sent to the institutional e-mail of the students of four universities in northern Portugal, and those who agreed to participate accessed the questionnaire webpage. The collected data were analyzed using the statistical program SPSS, version 23. The descriptive measures of the sociodemographic variables and AUDIT questions included mean and frequency. Descriptive analysis was performed by percentage of university students, level of risk, sociodemographic variables, and correlation between variables. To describe the combined behavior of the variables that indicated significance in the univariate analysis in relation to the groups defined through AUDIT (gender, marital status, nationality, course year, living arrangements), the level of significance was set at $p < 0.05$ for the statistical analyses.

After being authorized by the directors' boards of the universities and approved by the Research Ethics Committee, under opinion no. FCS/PI - 12/18, the study was initiated.

RESULTS

Table 2 shows that, in a sample of 570 individuals, aged between 18 and 63 years, with a mean of 24.81 years ($sd=7.73$), most are females ($n=403$), and 87% ($n=496$) are single. Regarding nationality, 87% ($n=496$) reported being Portuguese. In relation to the course year, it was found that 32.5% ($n=185$) are second-year students, 22.8% ($n=130$) first-year students, and only three participants (0.5%) are sixth-year students or above. As to their living arrangements, 353 live with their parents or partner (61.9%), 106 live with colleagues (18.6%), nine alone (16.1%), and 19 in student residences (3.3%). It was found that 31.8% ($n=181$) are working students.

Table 2 - Characterization of university students in relation to sociodemographic variables. Porto, Portugal, 2020

Sociodemographic characteristics		Sample (n=570)		
		N	(%)	
Gender	Female	403	70.7	
	Male	167	29.3	
Marital Status	Single	496	87	
	Married/stable relationship	64	11.2	
	Divorced/separated	10	1.8	
Nationality	Portuguese	496	87	
	Other	74	13	
Course Year	1st	130	22.8	
	2nd	185	32.5	
	3rd	111	19.5	
	4th	92	16.1	
	5th	47	8.2	
	6th	3	0.5	
Living arrangement	Student residence	19	3.3	
	With colleagues	106	18.6	
	Alone	92	16.1	
	With partner	73	12.8	
	With parents	280	49.1	
Working Student	Yes	181	31.8	
	No	389	68.2	
	Mean	sd	Min	Max
Age	24,81	7,73	18	63

Note: n= total sample; %= percentage; sd=standard deviation; Min=minimum; Max=maximum.

After analyzing the AUDIT risk level and sociodemographic characteristics (Table 3) of the total sample, it was found that 81.4% (n=464) had a risk level I, of who 60.4% are female; 14.6% (n=83) were at risk level II, corresponding to 8.4% (n=48) women; 2.6% (n=15) of the sample had a risk level III, with 1.4% (n=8) being female; 1.4% (n=8) of the sample is at level IV, of which 0.9% (n=5) are male and 0.5% (n=3) female. Both women and men are mostly at risk zone I, and men drink more at zones II (n=35), III (n=7), and IV (n=5).

Table 3 - Percentage of university students by risk level and quantitative variables. Porto, Portugal, 2020

Sociodemographic characteristics		AUDIT - Risk Levels Sample (570)			
		Zone I % (n)	Zone II % (n)	Zone III % (n)	Zone IV % (n)
Gender	Female	85.5 (344)	11,9 (48)	2(8)	0,7 (3)
	Male	71.9 (120)	21 (35)	4,2 (7)	3 (5)
Marital Status	Single	80.6 (400)	15.1 (75)	2.8 (14)	1.4 (7)
	Married/stable relationship	85.9 (55)	10.9 (7)	1.6 (1)	1.6 (1)
	Divorced/separated	90 (9)	10 (1)	0.0 (0)	0.0 (0)
Nationality	Portuguese	84.3 (418)	12.9 (64)	1.8 (9)	1 (5)
	Foreign	62.2 (46)	25.7 (19)	8.1 (6)	4.1 (3)
Course Year	1st	82.3 (107)	11.5 (15)	4.6 (6)	1.5 (2)
	2nd	80.5 (149)	15.7 (29)	2.2 (4)	1.6 (3)
	3rd	83.8 (93)	13.5 (15)	1.8 (2)	0.9 (1)
	4th	80.4 (74)	15.2 (14)	2.2 (2)	2.2 (2)
	5th	78.7 (37)	19.1 (9)	2.1 (1)	0.0 (0)
	6th	66.7 (2)	33.3 (1)	0.0 (0)	0.0 (0)
Living Arrangements	Student residence	73.7 (14)	15.8 (3)	10.5 (2)	0.0 (0)
	With colleagues	74.5 (79)	19.8 (21)	3.8 (4)	1.9 (2)
	Alone	75 (69)	18.5 (17)	5.4 (5)	1.1 (1)
	With partner	86.3 (63)	11 (8)	1.4 (1)	1.4 (1)
	With parents	85.4 (239)	12.1 (34)	1.1 (3)	1.4 (4)
Working student	Yes	81.8 (148)	14.4 (26)	2.2(4)	1.7 (3)
	No	68.1 (316)	14.7 (57)	2.8 (11)	1.3 (5)

Table 4 shows a correlation between the AUDIT score and the marital status ($p=.042$). Single people drink more at levels III and IV than people with other marital statuses. Most students drink at level I, with divorced people reporting zero consumption at levels III and IV. Regarding nationality ($p=.000$), Portuguese students consume at risk level I (84.3%, n=418). Foreigners students report consuming more than the Portuguese (25.7%/n=19 at level II; 8.1%/n=six at level III, and 4.1%/n=three at level IV).

Table 4 - Result of the analysis between the AUDIT score and quantitative variables. Porto, Portugal, 2020

Sociodemographic characteristics	AUDIT Score	
	Pearson C.	Sig.
Age	-.093*	.019
Gender	.190**	.000
Marital Status	-.085*	.042
Nationality	.199**	.000
Course Year	-.024	.570
Living Arrangements	-.169**	.000

**Significant correlation $p < 0.001$; *Significant correlation $p < 0.05$

Table 4 shows no correlation between the course year and alcohol consumption ($p=.562$). Level 1 consumption per year is the most reported, with the highest percentage among second-year students (83.8%; $n=93$). Sixth-year students or above report moderate consumption (33.3%, $n=1$), followed by fourth-year students with 19.1% ($n=9$). First-year students report a higher harmful consumption than the other years, with 4.6% ($n=6$). Third-year students report the highest consumption, with 2.2% ($n=2$), at level IV.

Table 4 shows a correlation between consumption by risk level and living arrangements ($p=.000$), and the majority of students reported level I consumption. Students living with colleagues drink more at risk level II, followed by those living alone (18.5%/ $n=17$). Students living alone report higher consumption at level III (5.4%/ $n=5$), followed by those living with colleagues (3.8%/ $n=4$). Students living with colleagues drink the most at risk level IV (1.9%/ $n=2$), followed by those living with partners and those living with parents, both with 1.4%/ $n=1$.

After analyzing the AUDIT score in relation to the qualitative variables, there is a correlation between all variables analyzed, except the course year ($p= .570$), and the total AUDIT score (Table 4). Age is inversely correlated with AUDIT ($p= .019$), as well as marital status ($p= .042$) and living arrangements ($p=.000$). The quantitative variable "nationality" is correlated positively with the AUDIT score ($p=.000$).

DISCUSSION

This study evaluated the prevalence of alcohol consumption in university students in northern Portugal and the correlation between consumption and the demographic data of their area of residence. It also aimed to contribute to the knowledge of the levels of consumption of university students. The northern region of Portugal comprises the districts of Viana do Castelo, Braga, Porto, Vila Real, and Bragança, as well as the northern part of the districts of Aveiro, Guarda, and Viseu.

The phase of young adult life corresponds to a process of fast personal maturation, social changes, and professional development, which makes young people more prone to having deviant behaviors⁽¹²⁾. Alcohol use can have harmful effects on their health if they engage in drinking for a long period or cannot distinguish between heavy drinking and moderate drinking⁽¹²⁾.

University entrance comes with personal and family changes, including moving to a new home, new friendships, and, subsequently, new behaviors influenced by the academic environment. Alcohol consumption is intrinsic to academic culture, as well as risk behaviors⁽¹³⁾. Therefore, it is essential to assess the risk levels associated with alcohol consumption in university students.

According to the Database of Contemporary Portugal (PORDATA)⁽¹⁴⁾, a total of 372,753 students were enrolled in Portuguese universities, of which 200,518 were female, corresponding to 54% of the total number of students enrolled. In this study, the students were mostly women (71%), corresponding to a value higher than the real proportion of enrolled students in Portuguese universities. Further investigation should be conducted as to why men are less frequent, but possible reasons may include lower availability or less willingness to expose themselves.

The results indicate that alcohol consumption is still a common practice in university students, which is in line with previous studies⁽¹⁵⁻¹⁷⁾. There is a clear relation between gender and alcohol consumption, with males having the highest drinking rates, consistent with other studies conducted in Portugal^(16,18,19). These results are in line with the results of several international studies carried out in this area^(2,15,20), which point out that alcohol is the substance most consumed by university students, being closely linked to the academic culture. Alcohol consumption, even heavy drinking, is considered the social norm^(21,22). Furthermore, high levels of alcohol consumption in young university students seem to be more associated with moving from their parents' home to live in student residences with other colleagues⁽²³⁾.

The results also show a correlation between marital status and AUDIT levels ($p=.042$), with single students being heavy drinkers (19.3%), compared to married (14.1%) or divorced students (10%). Single students are more interested in having fun in academic parties or groups, thus increasing alcohol consumption⁽¹⁶⁾.

In regard to the pattern of alcohol consumption in this study's sample, 81.4% report low-risk consumption, within the standards recommended by WHO⁽⁸⁾. However, 18.6% of the students reported harmful consumption or probable dependence, of whom 28.2% were male, 3% at level IV. Female students reported harmful consumption (14.6%) or probable dependence (0.7%). These data are in line with results from previous studies^(24,25).

Heavy drinking is a common practice worldwide^(17,26). However, the true prevalence of alcohol consumption and the extension of this problem in university students in Portugal remain unknown. In this study, 15.7% of the university students enrolled in Portuguese universities in northern Portugal reported heavy drinking. However, the international rate of heavy drinking among university students is higher, according to recent literature. This is consistent with the rates of heavy drinking in foreign students observed in this study (37.9%), corroborating previous studies with university students with high rates of harmful alcohol consumption⁽²⁶⁾.

However, three major studies report Portuguese data on this topic. A study, conducted in 2006, compared alcohol consumption patterns of university students from 21 countries; Portugal ranked 14th in relation to the largest number of university students consuming alcohol⁽²⁷⁾. Other authors have found that university students have significant rates of alcohol consumption. A study conducted with university students from Coimbra revealed that 71.6% of the students were drinkers, and the remaining 28.4% were abstainers⁽²⁸⁾. Another study⁽¹⁸⁾ was conducted to characterize the patterns of alcohol consumption in students of the University of Aveiro. It found that university students have high rates of alcohol consumption, with 86.3% of the interviewees reporting drinking alcohol at least once. Of these, 39% had drunk one or two times, 23.5% weekly, and 22.9% monthly, in the last three months. It can be concluded that alcohol use is high among university students at levels above those recommended, which can significantly damage their health and academic performance.

This study achieved its main objective, which was to evaluate the prevalence of

alcohol consumption in university students in the northern region of Portugal. It was found that alcohol use is higher in male students and students living out of their area of residence. Few studies were conducted on alcohol use and abuse in university students. These few focused mostly on the central and southern regions of Portugal, thus limiting the generalization of data (external validity) for other studies. The results of this study can be compared with future studies conducted with university students. They also contribute to a better understanding of the reality of alcohol consumption.

The results focused on young university students enrolled in Portuguese universities, having found that a significant percentage of the sample are heavy drinkers. Therefore, it is necessary to conduct further studies in Portuguese higher education institutions to assess the patterns of alcohol consumption of university students, their causes, and consequences. This study contributed to a better understanding of the Portuguese reality of this problem, also a reality in other countries. In the face of this, investment in studies in this topic is crucial.

Regarding limitations, this is a cross-sectional study, whose results are a starting point for future studies. Another limitation is the fact that the study used a probabilistic, "snowball" sample, preventing generalization of data.

FINAL CONSIDERATIONS

Alcohol use should be a priority in the agendas of universities because the results show that a significant number of students have high levels of consumption, which can have harmful effects on their health. It is necessary to develop community intervention in the short term directed at health promotion, with the objective of preventing alcohol-related problems among university students, together with higher education institutions.

It is essential to know the profile of students, their personal characteristics, and alcohol consumption patterns so that specific actions can be implemented in this population together with higher education institutions. Longitudinal studies should be conducted to compare students' alcohol consumption at university entrance and throughout their academic training. In addition, higher education institutions should focus more on the prevention of risky behaviors, for example, by conducting studies with brief interventions recommended by WHO and promoting a healthier lifestyle.

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