

Consumption of alcohol among nursing students

Consumo de bebidas alcólicas entre estudantes de enfermagem

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Keywords

Alcohol drinking; Alcoholism; Students, nursing; Education, nursing; Risk factors

Descritores

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Abstract

Objective: To compare the consumption of alcohol among freshmen and senior nursing students of an undergraduate course.

Methods: Cross-sectional study with 154 nursing students. The research instrument was a questionnaire with socio-demographic data and academic life and the Alcohol Use Disorders Identification Test (AUDIT). In the data analysis, we used descriptive statistics, Pearson chi-square test, Fisher's exact test and linear trend. A statistical significance of 5% was adopted.

Results: Most participants were female, aged 20-24 years old, single, who were black and from the C socioeconomic class. A total of 57.1% of the sample consumed alcohol. We found a higher frequency of consumption and alcohol doses for undergraduate students and greater proportion of these in AUDIT risk level zone II, III and IV. There was no statistically significant difference in analysis between zone and year of study.

Conclusion: Senior students had higher harmful alcohol consumption.

Resumo

Objetivo: Comparar o consumo de bebida alcóolica entre estudantes de Enfermagem ingressantes e concluintes do curso.

Métodos: Estudo transversal, com 154 estudantes de enfermagem. O instrumento de pesquisa foi um questionário com dados sociodemográficos e da vida acadêmica, e o *Alcohol Use Disorders Identification Test* (AUDIT). Na análise dos dados, empregaram-se estatísticas descritivas, teste Qui-quadrado de *Pearson*, exato de *Fischer* e de tendência linear. Adotou-se significância estatística de 5%.

Resultados: Predominaram mulheres, na faixa etária de 20 a 24 anos, solteiros, da raça negra e classe socioeconômica C. Consumiam bebida alcóolica 57,1% da amostra. Constatou-se maior frequência de consumo e de doses de bebida alcóolica para estudantes concluintes e maior proporção destes nas Zonas AUDIT II, III e IV. Não houve diferença estatisticamente significante na análise entre zonas e ano em curso.

Conclusão: Estudantes concluintes apresentaram maior consumo prejudicial de bebidas alcóolicas.

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Introduction

The consumption of alcohol has ancient character in different cultures and societies. The legalization of its use and availability for affordable prices facilitates and contributes to the indiscriminate and banalized consumption among different age groups, which has become a serious public health problem affecting more vulnerable social groups such as young people and university students.⁽¹⁾

The abuse of alcohol leads to functional, social and psychological limitations to the individual; it affects health and quality of life of family members and increases the rates of urban, domestic and intra-family violence, and automobile accidents.⁽²⁾ In addition, alcohol consumption leads to the death of 2.5 million people per year worldwide and 320,000 deaths, between 15 and 29 years old, are related to such consumption - which represents 9% of total.⁽³⁾

Youth is one of the stages of human development cycle, in which the individual is faced with the need to make decisions that will outline her/his future, as well as being exposed to a world of new discoveries and experiences, and the formation of new bonds. The opportunity to experience the "unknown" makes this public a potential consumer of alcohol and thus, they become an advertising target for manipulation. At this condition, we can add access to university as a passport to individual freedom from the family, particularly for students moving to larger centers and away from their home communities.⁽²⁾

In a literature review, from the last 10 years, in the databases of the Virtual Health Library, *Portal Capes*, CINAHL, EMBASE and SciSearch, using the keywords "alcohol consumption" and "Nursing students" only a few researches relating to university students in that area were found.

For nursing students, consumption of alcohol in the academic circle occurs for recreational purposes,^(1,2,4) as an alternative to relaxation and to carry the overload, pressures and exhaustion of the university activities, besides that, their consumption may also be related to acceptability in social and cultural contexts.⁽²⁾

The increase number of research on alcohol consumption with Nursing university students can guide effective measures to prevent and control damage to a social group that is supposed to promote individual and collective health. Nurses should work in identifying risk groups to propose practices of care in health/Nursing that help individuals to think of new ways of being and living, in order to improve quality of life. Given the above, the objective of this study was to compare the consumption of alcohol among freshmen and senior nursing students of the undergraduate course.

Methods

This is a cross-sectional study carried out at a Nursing school from a public university in Salvador, the state capital of Bahia, in northeastern Brazil. In the period of data collection, held in the second semester of 2011, 55 students were enrolled in the first semester and 51 in the second semester (of the first year), 42 in the eighth semester and 39 in the ninth semester (of the final year).

The 187 students enrolled were addressed in the classroom, with previously scheduled time at the collegiate of the Nursing undergraduate course, with the introduction of the researchers, an awareness of the importance of the research and the explanation of the objectives. Of these students, 154 agreed to participate, constituting the sample: 48 were from the first semester and 43 from the second semester (first year of the course/freshmen), 31 were from the eighth semester and 32 were from the ninth semester (final year/senior students). All participants met the following inclusion criteria: minimum age of 18 years, both genders, enrolled and attending the first two or the last two semesters of the undergraduate course.

Three instruments for data collection were used. For socio-demographic data, a questionnaire was used, the first part included closed and semi-structured questions about age in years, gen-

der, self-declared skin color/ethnicity, marital status, family income, monthly personal expenditures and socioeconomic status. For data collection of academic life, the form included closed questions such as, current semester, type of school where she/he had finished high school, how they were enrolled in the university, study workload during the semester they were at, the number of days per week and shifts in school, and extracurricular activity. The Alcohol Use Disorders Identification Test (AUDIT) instrument was used to identify the consumption of alcoholic beverages.

The AUDIT was created to identify problems related to alcohol consumption in primary health care. It allows identifying the dependence on alcohol, especially in the last 12 months. It consists of ten questions, each with scores ranging from zero to four, totaling a maximum of 40 points, according to the scores of the results the intervention will be defined.

The data were coded, entered into SPSS and exported to STATA statistical software version 12.0 for Windows platform for the generation of results. Data analysis consisted of descriptive study and exploratory of socio-demographic characteristics of students. Univariate and bivariate frequency distributions were used for qualitative variables, and means and standard deviation were used for quantitative variables. The bivariate analyzes were performed in order to describe and verify proportional differences between freshmen and senior students, as well as the characteristics of interest of the study, by applying the Pearson Chi-square test and Fisher exact test. To check proportional trends between the variables of the ordinal type and groups, we used chi-square test for linear trend. We adopted the level of significance of 5% ($p \leq 0.05$). The power of this study was estimated for an average prevalence of alcohol consumption of 35%, and adopted a mean difference in prevalence between the groups (first and last year) of 10%. The significance level was 5% and the study power of 94%.

The development of the study followed national and international standards of ethics in research involving humans and animals.

Results

The sample consisted of 154 nursing undergraduate students who agreed to participate in the study, as shown in table 1. Among them, 59.1% were enrolled in the first year and 40.9% in the last year of the course; 89.6% were female, and the proportional distribution by gender was similar to the overall ongoing for years.

The mean age was 22.4 ± 4.5 years, with predominance of the age group 20-24 years (52.6%), both for freshmen and senior students. The groups had statistically significant proportional differences in age and the year of study, with a predominance of final year students at older ages.

Predominantly, students self-reported as being brown (56.1%), followed by black (21.4%), with the highest percentage of brown skin color for both groups. There was no proportional association between skin color and year of study. Married people were less frequent (6.5%) and there was a predominance of singles (51.3%) and without a permanent partner (42.2%) in senior students. The groups presented statistically significant proportional differences in marital status and the year of study.

A higher proportion of students belonged to C socioeconomic class (45.5%), with similar distribution in both groups. The monthly family income with greater proportion of the sample was of up to five minimum wages ($p=0.997$). The monthly expense of the student identified with greater proportion was up to one minimum wage (50.0%). However, in the group of first year students, personal expenses of less than one minimum wage (57.1%) was more frequent than in the last year group.

It was found for the sample, the prevalence of students from public high schools (52.6%), as verified for the semesters in progress. Most students were enrolled in the course through the university admission exam (96.1%), the same was observed for senior students. A higher proportion of students in the first and last years attended the course between 5-6 days (79.2%). However, a higher percentage of first-year students (97.8%) remained more days in school compared to last year (52.4%).

Students devoted to the academic activities predominantly in two shifts at school (55.9%). However, there was a reversal in this ratio between senior students because a higher percentage of first-year students (68.1%) attended two shifts and a higher percentage of last year (61.9%), only one. It was found a predominance of conducting extracurricular activity in the sample (94.2%) for the first year group (95.6%) and last year (92.1%). As for the distribution of workload in the semester, ≥ 400 hours predominated in the sample (78.6%) and for the years in progress.

Regarding the pattern of alcohol consumption, as shown in table 2, it was observed that, out of the 154 undergraduates, 42.9% had never drunk this type of beverage and 57.1% reported alcohol consumption. The higher frequency of consumption was observed for the group from the last year compared to the first year ($p=0,01$).

Table 1. Socio-demographic characteristics (n=154)

Socio-demographic characteristics	Years of course			p-value
	Total (n=154)	Freshmen (n=91)	Seniors (n=63)	
Gender				
Male	16(10.4)	8(8.8)	8(12.7)	0.435 [†]
Female	138(89.6)	83(91.2)	55(87.3)	
Age groups (in years)				
18 - 19	39(25.3)	39(42.8)	0(0.0)	0,000 [†]
20 - 24	81(52.6)	45(49.4)	36(57.1)	
≥ 25	34(22.1)	7(7.7)	27(42.8)	
Skin Color				
White and others	33(21.4)	19(20.8)	14(22.2)	0.835 [†]
Black	33(21.4)	21(23.1)	12(19.0)	
Brown	88(57.2)	51(56.1)	37(58.8)	
Marital status				
Married/stable union	10(6.5)	2(2.2)	8(12.7)	0.017 [†]
Single. without permanent partner	65(42.2)	44(48.4)	21(33.3)	
Single. with permanent partner	79(51.3)	45(49.5)	34(53.9)	
Socioeconomic condition				
A	14(9.1)	8(8.8)	6(9.5)	0.847 [†]
B	54(35.1)	30(32.9)	24(38.1)	
C	70(45.5)	44(48.3)	26(41.3)	
D e E	16(10.4)	9(9.9)	7(11.1)	
Family Income/per month, MW*				
2	30(19.5)	18(19.8)	12(19.1)	0.997 [†]
3 - 5	62(40.3)	36(39.6)	26(41.3)	
6 - 8	25(16.2)	15(16.5)	10(15.9)	
≥ 9	37(24.0)	22(24.2)	15(23.8)	
Personal expenses/per month (in minimum wages)				
<1	77(50.0)	52(57.1)	25(39.7)	0.095 [†]
1 - 2	53(34.4)	26(28.6)	27(42.9)	
≥ 3	24(15.6)	13(14.3)	11(17.5)	

*MW - Minimum Wage; MW of Brazil during the time of the research R\$ 545.00 or US\$ 320.59; [†]Pearson Chi-square test; [‡]Chi-square Fisher's exact test

As the number of doses consumed, predominated for both the freshmen and senior students, consumption of one or two, and three or four doses. However, comparison of the number of doses of the senior students showed high proportions of one or two, and three or four doses for freshmen students and a greater proportion of five or six doses and seven or more doses for students in the last year ($p=0.36$).

There was a highest percentage of first-year students who had never consumed six or more doses on one occasion (47.8%) compared to last year (23.8%). This pattern was higher among senior students that in less than once per month and once a week. Among freshmen, in a greater proportion the frequency was once per month. These data showed an increasing trend in the frequency of consumption of six or more doses on one occasion for the last year.

In table 3, we observed that both the freshmen and senior students, there was a higher proportion of students who never perceived inability to control alcohol consumption, never missed commitments due to drinking and have never had a need to drink in the morning to feel better after excessive consumption. There were no statistically significant proportional increase or decrease trends in frequency of dependence symptoms by alcohol consumption between groups.

As for the recent problems in life and related to alcohol consumption, it was found that 84.8% of students in the first and 73.8% of the last year did not feel guilt or remorse after consuming alcohol. However, in 2.2% of first-year students, this feeling was present in all or almost every day. Half of the sample (52.2% freshmen and 47.6% senior students) never suffered the lack of memory of what happened the night before because of alcohol.

It was found that 91.2% of students in the first and 79.4% of the last year reported not to having suffered losses in personal life or another person due to alcohol consumption. Among those who reported impairment, the same occurred more frequently in the last year. It was also found in 91.2% of students in the first and 79.4% from

Table 2. Pattern of alcohol consumption

Pattern of alcohol consumption	Years of course			p-value*
	Total (n=154)	Freshmen (n=46)	Seniors (n=42)	
How often do you take alcoholic beverages? (n=154)				
Never	66(42.9)	45(49.4)	21(33.3)	0.01
Once/per month	40(26.0)	23(25.3)	17(27.0)	
2-4 times/per month	39(25.3)	21(23.1)	18(28.6)	
1-3 times/per week	9(5.8)	2(2.2)	7(11.1)	
Number of doses, cups or bottles you normally take (n=88)				
1-2	34(38.6)	18(39.1)	16(38.1)	0.36
3-4	31(35.2)	19(41.3)	12(28.6)	
5-6	18(20.5)	7(15.2)	11(26.2)	
7 or more	5(5.7)	2(4.4)	3(7.1)	
Consumption frequency of 6 or more drinks on one occasion (n=88)				
Never	32(36.4)	22(47.8)	10(23.8)	0.01
Less than once a month	36(40.9)	16(34.8)	20(47.6)	
Once/per month	14(15.9)	8(17.4)	6(14.3)	
Once/per week	6(6.8)	0(0.0)	6(14.3)	

*Chi-square test for linear trend

Table 3. Symptoms of dependence (n=88)

Symptoms of dependence	Years of course			p-value*
	Total (n=88)	Freshmen (n=46)	Seniors (n=42)	
Frequency of perceived inability to control alcohol consumption				
Never	78(88.6)	42(91.3)	36(85.7)	0.56
Less than once/per month	6(6.8)	2(4.3)	4(9.5)	
Once/per month	4(4.6)	2(4.4)	2(4.8)	
Missed commitments due to drinking				
Never	82(93.2)	43(93.5)	39(92.9)	0.82
Less than once/per month	5(5.7)	2(4.4)	3(7.1)	
Once/per month	1(1.1)	1(2.1)	0(0)	
Frequency of the need to drink in the morning after excessive drinking to feel better				
Never	85(96.6)	46(100)	39(92.9)	0.07
Less than once/per month	3(3.4)	0(0)	3(7.1)	
Once/per month	-	-	-	

*Chi-square test for linear trend

last year, lack of concern or request to stop drinking by relative, friend, physician or other health professional.

As for the risk levels and their respective interventions, obtained from the results of the AUDIT, it was found for those who consumed alcoholic beverage (n=88), a higher proportion in Zones I (65.9%) and II (25.1%). We found a greater proportion of senior students when compared to first year students in Zones II (28.6% versus 21.7%) and III (11.9% versus 4.4%), and 2.4% in Zone IV for senior students. However, these differences were not statistically significant.

Discussion

Considering that excessive consumption of alcohol is not well accepted socially, a limitation of the study may have been the omission of information from the students on that consumption, due to fear of reprisals in the training course in health and they could be publicly exposed to the dissemination of research results. Another limitation may be related to the fact of having used a convenience sample, which suggests caution in generalizing the results.

Focusing on the consumption of alcohol among freshmen and senior students of the Nursing

course, as observed, the sample was predominantly, female, self-declared brown skin color and class C. The presence of women in the Nursing undergraduate, even after the introduction of men in the profession, is still predominant.⁽⁴⁾ Other groups with different gender distribution may present different results observed in the study.

The study group was also consisted mostly of single students who were black, which is justified as the study was conducted in Salvador.

The prevalence of income was three to five minimum wages and the socioeconomic status was C. In other studies^(1,2,5) students who reported higher income consumed more alcohol.

In this study, more than half of the students of the first and last year finished elementary school in public schools. The fact that students get to enroll in a public university by the university admission exam corresponds to a selection process. When entering the course, students need to adapt to the new condition of life - being in university,⁽⁴⁾ which leads to the hypothesis that students of last year's group could be more exposed to abusive alcohol consumption in relation to group in the first year. It is in this period that the group meetings are intensified and the consumption of alcohol increases, reaching the abuse. Adolescents and young adults are the population most at risk for alcohol consumption.⁽²⁾ Study with 1060 nursing students in Spain showed evidence of hazardous alcohol consumption with no gender differences and that the proportion of risk consumers was higher among younger smokers and people living outside the household.⁽⁶⁾ Although 42.9% of students never consumed alcohol in the last 12 months, 57.1% used to drink, we noted a statistically significant increase trend in the consumption of freshmen to senior. This finding was in agreement with other studies that found a higher percentage of excessive alcohol consumption in senior students from the health area and Nursing.^(2,4) Such behavior was justified by expectations before the entrance in the labor market, future plans, feelings of frustration and anxiety. Therefore, it is important to work with health promotion and the prevention of alcohol abuse with the group of students investigated.

There was, predominantly, no dependence symptoms in alcohol consumption between the groups, showing protection. The recent problems in life related to alcohol consumption did not reach most of them in their years in progress. However, when present, were more frequent in senior students, showing damage due to its use at the final year of the course, with regard to guilt or remorse after drinking, or missing commitments due to drinking, losses in personal life and concern on the part of the social group. The alcohol abuse is undeniably considered an aggravating factor in the imbalance of personal, family and professional life.⁽⁶⁾

The predominant classification of the AUDIT in Zones I and II, both for the group of the first year as to the group of the last year. However, senior students were closer to the higher risk zones for alcohol consumption (Zones III and IV). Although one cannot identify the reasons that favored this consumption, we suppose that senior students are faced with greater stress overload, personal claim and anxiety, given the final period of the course and with the expectations of future employment. In a study conducted with Nurse students in the city of Sao Paulo (SP),⁽⁴⁾ the proportion was between 43-47% for moderate alcohol consumption. Study with 52,150 Chinese students, excessive alcohol consumption was 23.5%.⁽⁷⁾ A study conducted at the University of Castilla - La Mancha, the prevalence of students exposed to problematic alcohol consumption was 17.9%.^(3,6) In the present study, these percentages were higher, with 34.1% for the sample, 42.9% for senior students and 26.1% for freshmen, demonstrating the propensity for increased problematic consumption for the final year group.

The results indicate that students classified as Zone II require advice on the consumption of alcohol; those in Zone III, advice on alcohol consumption and continuous monitoring; and those in Zone IV, referral to specialists for diagnosis, evaluation and treatment. In this sense, in order to prevent so that these behaviors are perpetuated, the development of specific preventive strategies must happen in the locus of research and in other higher education institutions of Nursing, in order to avoid the

consequences of abuse, like diseases, individual and collective limitations, such as increased rates of absenteeism, violence, traffic accidents and other negative impacts on the personal interaction - being it personal or professional.

Education for responsible use of alcohol associated to government policies that limit access and supply of alcoholic beverages at parties such as open-bar in university events and on *campus*, can be an important strategy to reduce the problematic use of alcohol among young university students, preventing future problems.^(4,5,7)

Conclusion

We found a higher frequency of consumption and alcohol doses in the final year students of the Nursing course compared to the first year, and a higher proportion of senior students in Zones II, III and IV were found according to the AUDIT, however, the analysis between zones and year did not show statistically significant proportional differences. Educational interventions may prevent continuous and problematic alcohol consumption in nursing students.

Collaborations

Pires CGS and Mussi FC contributed to the project design, analysis and interpretation of data, drafting the manuscript, adaptation to the journal's guide-

lines and approval of the final version to be published. Souza RC contributed in data collection, analysis and interpretation of data and approval of the final version to be published. Santos CAST and Silva DO collaborated in the analysis plan, data interpretation and approval of the final version to be published.

References

1. Swahn MH, Palmier JB, Benegas-Segarra A, Sinson FA. Alcohol marketing and drunkenness among students in the Philippines: findings from the nationally representative Global School-based Students Health Survey. *BMC Public Health*. 2013;13:1159.
2. Swahn MH, Ali B, Palmier JB, Sikazwe G, Mayeya J. Alcohol marketing, drunkenness, and problem drinking among Zambian youth: finding from the 2004 Global School-Based Students Health Survey. *J Environ Public Health*. 2011;2011:497827.
3. Sotos JR, Gonzalez AL, Martínez IP, Rosa MC, Herraes MJ, Hidalgo JL. Self-assessment of alcohol consumption as a health-education strategy in nursing students. *Nurse Educ Today*. January 2015, Volume 35, Issue 1, Pages 132-37. <http://dx.doi.org/10.1016/j.nedt.2014.08.004>.
4. Vargas D. Nursing students attitudes towards alcohol, alcoholism and alcoholics: a study of a Brazilian sample. *J Nurs Educ Practice*. 2012;2(1):1-8.
5. Swahn MH, Ali B, Palmier J, Sikazwe G, Twa-Twa J, Tumwesigye N, Rogers K. Early alcohol use and problem drinking among students in Zambia and Uganda. *J Public Health Africa*. 2011;2(e20):83-6.
6. Rabanales Sotos J, López Gonzalez A, Párraga Martínez I, Campos Rosa M, Simarro Herraes MJ, López-Torres Hidalgo J. Prevalence of hazardous drinking among nursing students. *J Adv Nurs*. 2014 Nov 3. doi: 10.1111/jan.12548.
7. Ji CY, Hu PJ, Song Y. The epidemiology of alcohol consumption and misuse among Chinese college students. *Alcohol Alcohol*. 2012 Jul-Aug;47(4):464-72.