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Original Article

Associations between alcohol use and the sociodemographic profile of nursing and nutrition students

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Objective: to verify the pattern of alcohol use in undergraduate nursing and nutrition students at a public university and possible associations between sociodemographic variables. **Method:** a cross-sectional study with 170 undergraduate Nursing and Nutrition students from a public university. A sociodemographic questionnaire and the Alcohol Use Disorder Identification Test were used for data collection. Associations were verified by the chi-square test considering a p-value <0.05. **Results:** the prevalence of consumption was 80%, and of binge drinking, 59.53%. The low risk pattern was identified in 53.53% of the students. Alcohol consumption profiles were associated with current age range and age of first contact with alcohol, household composition and type of alcohol consumed. **Conclusion:** among nursing and nutrition students, low and harmful risk patterns were associated with the following variables: age group between 17 and 23 years old, age of first contact with alcohol between 10 and 17 years, and living with friends. The use of fermented drinks was associated with the low risk pattern. The recognition of the profile contributes to the development of health promotion, prevention and education strategies in order to reduce future risks arising from the use of alcohol.

Descriptors: Students, Health Occupations; Alcohol Drinking in College; Nursing; Nutrition Personnel; Public Policy.

Associações entre uso de álcool e perfil sociodemográfico de universitários de Enfermagem e Nutrição

Objetivo: verificar o padrão de uso de álcool em graduandos dos cursos de enfermagem e nutrição de uma universidade pública e possíveis associações entre as variáveis sociodemográficas. **Método:** estudo transversal realizado com 170 estudantes dos cursos de graduação em Enfermagem e Nutrição de uma universidade pública. Utilizou-se um questionário sociodemográfico e o *Alcohol Use Disorder Identification Test*. As associações foram verificadas por meio do teste qui-quadrado considerando p-valor <0,05. **Resultados:** a prevalência de consumo foi de 80% e *binge drinking,* 59,53%. O padrão de baixo risco foi identificado em 53,53% dos estudantes. Associaram-se aos perfis de consumo álcool a faixa etária atual e de primeiro contato com bebidas alcoólicas, composição domiciliar e tipo de bebida alcoólica consumida. **Conclusão:** aos padrões de riscos baixo e nocivo, entre estudantes de Enfermagem e Nutrição, associaram-se as variáveis faixa etária entre 17 e 23 anos, idade de primeiro contato com bebida alcoólica entre 10 e 17 anos, e residir com amigos. O uso de bebidas fermentadas associou-se ao padrão de baixo risco. O reconhecimento do perfil contribui para o desenvolvimento de estratégias de promoção, prevenção e educação em saúde a fim de reduzir os riscos futuros decorrentes do uso de álcool.

Descritores: Estudantes de Ciências da Saúde; Consumo de Álcool na Faculdade; Enfermagem; Recursos Humanos em Nutrição; Política Pública.

Asociaciones entre el consumo de alcohol y el perfil sociodemográfico de los estudiantes de enfermería y nutrición

Objetivo: verificar el patrón de consumo de alcohol en estudiantes de licenciatura en enfermería y nutrición de una universidad pública y sus posibles asociaciones entre variables sociodemográficas. **Método:** estudio transversal con 170 estudiantes de pregrado de Enfermería y Nutrición de una universidad pública. Para la recopilación de datos se utilizó un cuestionario sociodemográfico y el test de identificación de los trastornos debidos al consumo de alcohol (*Alcohol Use Disorder Identification Test* -AUDIT). Las asociaciones se verificaron mediante prueba de chi cuadrado considerando valor p <0,05. **Resultados:** la prevalencia de consumo fue del 80% y el consumo excesivo de alcohol del 59,53%. El patrón de bajo riesgo se identificó en 53,53% de los estudiantes. Los perfiles de consumo de alcohol se asociaron con la edad actual y el primer contacto con el alcohol, la composición del hogar y el tipo de alcohol consumido. **Conclusión:** a los patrones de riesgo bajo y nocivo, entre los estudiantes de Enfermería y Nutrición, se asociaron las variables grupo de edad entre 17 y 23 años, edad de primer contacto con alcohol entre 10 y 17 años y convivencia con amigos. El uso de bebidas fermentadas se asoció con el patrón de bajo riesgo. El reconocimiento del perfil contribuye al desarrollo de estrategias de promoción, prevención y educación de la salud con el fin de reducir los riesgos futuros derivados del consumo de alcohol.

Descritores: Estudiantes del Área de la Salud; Consumo de Alcohol en la Universidad; Enfermería; Personal de Nutrición; Política Pública.

Introduction

The World Health Organization (WHO) asserts that nearly 2.3 billion people are alcohol users, with consumption by more than half of the population of the Americas, Europe, and Western Pacific, resulting in approximately three million deaths *per* year, which corresponds to a percentage of 5.3% of the total of deaths[1].

In Brazil, it was observed that 16% of the population use alcohol harmfully and that nearly 50% did so in the last 12 months; of these, 62% corresponded to male individuals. These data indicate that the use of alcohol has been occurring in increasingly earlier age ranges, a context that points to a need for reviewing control, prevention, and treatment measures[2].

The I National Survey on the Use of Alcohol, Tobacco and Other Drugs among University Students from the 27 Brazilian capitals pointed out that 86.5% of the university population had already tried alcohol once in their life, 60.5% declared having used alcohol in the last 30 days, 19.2% of the students met the abusive use criteria and 2.6%, the criteria for high-risk use or dependence[3]. Thus, the use of alcohol represents the most used psychoactive substance among university students[4-5] and with a higher prevalence compared to the general population (89.3% versus 78.6%)[6].

In this sense, the question about university life acting as a factor of protection or risk for the use of alcohol and other drugs is explored[4-5,7-9], since they have been used by the students also as a strategy for pleasure[10].

A number of studies present alcohol as the licit substance most used among the university population regardless of the course or time frame investigated, which generally varies between the last 30 days and three months, with use of alcohol tending to have a higher prevalence as the undergraduate course years advance. They also point out that university students with depression and anxiety symptoms report higher increases in alcohol consumption compared to those with fewer symptoms[11-14].

Divergences in relation to the sociodemographic characteristics of university students and the use of alcohol can be identified among the research studies that focus on the theme. There are results indicating that female nursing students present a higher prevalence of alcohol use compared to the male population[7]. However, when the analysis scope is broadened by including several higher-level courses, male individuals appear as a variable positively associated with involvement with licit and illicit substances[9], but female individuals indicate an association with moderate risk to develop dependence[8].

In addition to this context, data presented by the Higher Education Census allow asserting that the Brazilian university student population exceeds seven million, with an increase of 17% between 2010 and 2013 in the public Higher Education Institutions[15]. Thus, recognizing and broadening the influence of the variables that interfere with the use of alcohol among health sciences university students is fundamental for developing prevention, promotion, and affective care strategies directly aimed at this population segment.

Understanding the use of alcohol as a public health problem means taking it and addressing it in its multi-factorial character and dynamism. The imbricated psychic, organic, socioeconomic and historical-cultural dimensions in continuous modification represent challenges for constituting strategies and policies to meet the health needs[16].

Aiming to elucidate the relations between the sociodemographic variables and the use of alcohol among health sciences students, the starting point was choosing two courses, in which the predominance of female students stands out, so as to answer the following research question: "How is the pattern of alcohol use characterized among undergraduate students of a public university from the inland of the state of São Paulo and what are the associations between the sociodemographic variables of this population?"

That said, our objective is to verify, through this research study, the pattern of alcohol use in undergraduate nursing and nutrition students of a public university and possible associations between the sociodemographic variables.

Method

This is a cross-sectional and descriptive-exploratory study of a quantitative character. It was carried in a public university located in the inland of the state of São Paulo. Of a universe of 140 students enrolled in the Nursing and Nutrition courses, 170 participated, a number that exceeded that of the proposed by sample calculation. The distribution of the courses was, respectively, 91 and 79 students attending from the first to the last year of each course, having as inclusion criterion being regularly enrolled in one of the courses in 2016.

Data was collected from March to May 2016. The data collection instruments used were a sociodemographic questionnaire and a self-applying one called Alcohol Use Disorder Identification Test (AUDIT) to verify the pattern of alcohol consumption. AUDIT is composed of 10 objective questions that allow answers with pre-established weights, varying from zero to four. The sum of the weights of each question indicates the individual's classification for the pattern of alcohol consumption, as follows: zero to seven, moderate consumption pattern; eight to fifteen, risky consumption; from 16 to 19, harmful use of alcohol; and from 20 to 40, possible alcohol dependence[17-18].

In order to operationalize collection, permission was requested from a teacher of a particular subject to apply the collection instrument. The teacher indicated the beginning or the end of the class as the best moment for collection. The students were contacted in the classroom in order to present the proposal of the research and request them to sign the Free and Informed Consent Form (FICF). After this stage, the instruments of data collection were distributed and collected after completion.

The answers were organized in a database using the Excel (version 2007) program and, to analyze the data statistics, the Statistical Analysis Software (SAS) system was employed. To verify the associations between the sociodemographic variables and AUDIT zones, the *chi*-squared test was used considering a 95% Confidence Interval (CI) and a *p*-value<0.05. The results were gathered and presented in tables with their respective absolute and relative frequencies and *p*-values.

The project was submitted to the Research Ethics Committee of the Medical School of Botucatu, at the "Júlio de Mesquita Filho" State University, respecting the guidelines set forth in Resolution 466/12 of the National Research Ethics Council – CONEP/CNS and approved under Opinion No. 1,048,615.

Results

The data presented in Table 1 correspond to the sociodemographic profile; in the population of this study, predominance of females, white-skinned, without a partner, and living with friends and/or in student housing was noticed. The mean age range was 21 years old [Standard Deviation (DP)=2.97], varying between 18 and 27 years old. Regarding their origin, 95.88% (n=163) were from the state of São Paulo, with 14.71% (n=25) of them from Botucatu. Most of the participants did not declare any employment contract (93.49%, n=158).

Table 1 – Distribution of the frequencies and answers (*n*=170). Botucatu, SP, Brazil, 2016

Variables	n	%
Gender		
Female	153	90.00
Male	17	10.00
Skin color		
White	129	75.88
Non-white	41	24.12
Marital status		
Without a partner	164	96.47
With a partner	6	3.53
Employment contract		
Yes	11	6.51
No	158	93.49

(to be continued...)

Variables	n	%
Household composition		
Student housing/friends	102	60.00
Family	35	20.59
Alone	33	19.41
Course		
Nursing	91	53.53
Nutrition	79	46.47
Year		
1º	53	31.18
2º	33	19.41
3º	50	29.41
4º	34	20.00

The initiation of alcohol use occurred at the mean age of 15 years old (31.18%, n=53), varying between 10 and 25 years old; the majority (77.05%, n=131) did not perceive alcohol consumption as a problem. The type of beverage most consumed was beer (49.41%, n=84), followed by distillates (35.29%, n=60).

When observing the consumption pattern, 13.53% (n=23) referred never having drunk alcohol in their lives. In this sense, 59.41% (n=101) revealed having drunk five or more doses of alcohol in a single occasion (binge drinking). Considering the frequency of binge drinking situations, 28.82% (n=49) was monthly and 15.29% (n=26), weekly.

As for the symptoms of dependence, it was observed that 15.88% (n=27) of the participants revealed the perception of not being able to stop drinking after they had begun; of these, 4.12% (n=7) had this perception monthly and 1.18% (n=2) weekly. It was observed that 37.65% (n=64) had already stopped doing what was expected from them due to the use of alcohol. In addition, 2.35% (n=4) revealed having needed a dose in the morning to feel better after a night of drunkenness.

Regarding the problems arising from alcohol use, it was verified that 44.11% (n=75) of the students had felt guilt or remorse after drinking; of these, 7.65% (n=13) regretted monthly or weekly for having drunk alcohol. Blackouts occurred in 56.47% (n=96) of the study population, with monthly frequency in 7.06% (n=12), and weekly frequency in 0.59% (n=1).

A percentage of the study population (24.12%, n=41) was criticized by third parties regarding the negative results due to alcohol use. A lower percentage (12.94%, n=12) were advised to stop drinking.

The pattern of alcohol use is shown in Table 2. The results evidenced a majority of students (53.53%, n=91) presenting a low-risk use pattern.

Table 2 – Alcohol consumption pattern among university students (*n*=170), Botucatu, SP, Brazil, 2016

Consumption profiles	n	%
Low Risk	91	53.53
Risky Use	59	34.71
Harmful Use	18	10.59
Probable Dependence	2	1.18

Between the four zones of consumption profile proposed by AUDIT (low risk, risky use, harmful use, and probable dependence), possible associations were verified with the sociodemographic characteristics, as presented in Table 3. It is observed that the age range between 18 and 23 years old, living with friends, and having had the first contact with alcohol between the ages of 10 and 17 years old, were data associated with the low risk and risky use consumption profiles. The use of fermented beverages was only associated with the low-risk consumption profile. It should be noted that, even in view of the female gender predominance, this variable was not associated with the consumption profile.

Table 3 – Associations between sociodemographic characteristics and AUDIT* consumption profiles (*n*=170). Botucatu, SP, Brazil, 2016

Sociodemographic characteristics	I		II		III		IV		p-value
	n	%	n	%	n	%	n	%	
Gender									
Female	11	6.47	4	2.35	2	1.18	0	0	.7132
Male	80	47.06	55	32.55	16	9.41	2	1.18	
Skin color									
White	69	40.59	47	27.65	12	7.06	1	.59	.5666
Not white	22	12.94	12	7.06	6	3.53	1	.59	
Age group (years old)									
18-20	38	22.35	40	23.35	6	3.53	1	.59	
22-23	39	22.94	19	11.18	10	5.88	1	.59	**.0079**
≥24	14	8.24	0	0	2	1.18	0	0	
Marital status									
With a partner	87	51.18	57	33.53	18	10.59	2	1.18	.9349
Without a partner	4	2.35	2	1.18	0	0	0	0	
Origin									
Another city	73	42.94	54	31.76	16	9.41	2	1.18	.2382
Same city	18	10.59	5	2.94	2	1.18	0	0	
Employment contract									
Yes	8	4.73	3	1.78	0	0	0	0	.4887
No	82	48.52	56	33.14	18	10.65	2	1.18	
Household composition									
Alone	23	13.53	9	5.29	1	.59	0	0	
Family	24	14.12	8	4.71	2	1.18	1	.59	**.0322**
Friends	44	25.88	42	24.71	15	8.82	1	.59	
Courses									
Nursing	54	31.76	27	15.88	8	4.71	2	1.18	.1718
Nutrition	37	21.76	32	18.82	10	5.88	0	0	
Year of the courses									
1	28	16.47	22	12.94	2	1.18	1	.59	
2	18	10.59	14	8.24	1	.59	0	0	.1153
3	26	15.29	16	9.41	8	4.71	0	0	
4	19	11.18	7	4.12	7	4.12	1	.59	

(to be continued...)

Sociodemographic characteristics	Consumption Profiles (AUDIT*)								p-value
	I		II		III		IV		
	n	%	n	%	n	%	n	%	
Age group (years old) of the first contact with alcoholic beverages									
No contact	5	2.94	0	0	0	0	0	0	
10-14	20	11.76	30	17.65	9	5.29	1	.59	
15-17	50	29.41	28	16.47	5	2.94	1	.59	**.0105**
18-20	15	8.82	1	.59	4	2.35	0	0	
≥21	1	.59	0	0	0	0	0	0	
Type of alcohol beverage									
No contact	21	12.35	2	1.18	0	0	0	0	
Distilled	27	15.88	26	15.29	7	4.12	0	0	**.0221**
Fermented	42	24.71	29	17.06	11	6.47	2	1.18	
Both	1	.59	2	1.18	0	0	0	0	

*AUDIT = Alcohol Use Disorder Identification Test

Discussion

The prevalence of alcohol use in the studied population was 80%, and the practice of binge drinking reached 59.41%. These rates are close to those of a study carried out in the southern region of Brazil, involving 12 health area courses, which found 85% and 56,1% of prevalence, respectively[19]. Similar populations in other regions of the country and Latin America presented approximated prevalence of consumption (74.9%)[20], (83.7%)[7], (85%)[21], and (86%)[22].

However, among medical students from private institutions in Brazil the prevalence of use was lower (69.3%)[23], as well as in Peruvian institutions, which indicated 48.5%[24]. An analysis of Brazilian and Portuguese university students pointed out that, in their free time 56.8% of the individuals use alcohol and 43.5% indulge in binge drinking[25].

A variation is observed in the prevalence of alcohol use and of binge drinking according to the population and to the context. Among French students, binge drinking reached a prevalence of 65.1%[26] while, in the national scene, the prevalence of binge drinking was approximately four times lower (15.3%)[20] if compared to the result of that study. The results of that research study were higher than those found for students from the exact sciences (34.7%) and biology (24.6%) areas[3].

It is known that binge drinking is associated with negative consequences, such as low academic performance and accidents[3]. It is pointed out that, among Nutrition and Nursing students, there is a greater percentage whose consumption pattern can reverberate in negative repercussions, a situation that worsens when a high prevalence of binge drinking is observed. A wide French study observed that binge drinking was associated with weed and tobacco consumption[26].

This practice also was associated with risky behaviors, among which the following can be mentioned: drunk driving, sharing a ride with someone who consumed alcohol, involvement in traffic accidents, academic problems, problems with affective relationships, involvement in fights and legal violations, sexual practice without a condom, nausea and vomits[19,27-29].

It was verified that binge drinking was higher among male students, those who did not declare any religious practice or a practice different from Catholicism, those who were involved in fights, those who were absent from activities, and those who showed low academic performance[3,20].

The population of this research classified in the low-risk consumption profile (53.53%) was smaller when compared to other studies involving students from health courses (77%)[19], students from medical courses in private institutions (64%)[26] and students from various higher education courses (77.5%)[30], (81%)[8]. However, a research study specifically conducted with Nursing students points to an even smaller percentage (21%)[28] than the one found in this study.

Among the variables associated with the consumption profile, the results of this research observed a predominance of female individuals (90%) with a protection variable; on the other hand, the following were identified as exposure factors: students who declare not having a partner (96.47%), living with friends (60%) and few living with their parents

(20.59%). It is argued that living with the parents, not having begun sexual life, and religious practice were three variables identified as protective factors for alcohol use when in college[19,23,27].

When entering university, a percentage of students experiences detachment from family and social relationships, connection with new friends, and adaptation to the routine inherent to the university demand. Such factors can increase the vulnerability to alcohol use and other drugs, as well as develop a fundamental factor in alcohol dependence[23-24].

In contrast, active sexual life, stable relationship, positive family history for alcohol use and mental disorder, previous treatment of mental disorders, living with friends who use alcohol, and going to parties once or more times a week were exposure factors[19,23,30]. There are divergences between marital statuses, since being single was an exposure variable in other research studies[19-29].

The higher prevalence of the low-risk pattern of alcohol use among the university students interviewed can be related to the health area courses that traditionally attract more women than men. However, there was no association between the gender of the participants and the AUDIT consumption profiles. However, a dynamic change in the sex and gender distributions regarding the pattern of alcohol use among university students from the health science courses must be observed, since a number of studies have pointed out an increase in the prevalence of female students[5,7,13].

When analyzing the pattern of alcohol use between the genders, it is observed that male individuals appear with a lower proportion of low-risk drinkers and a greater rate of frequent binge drinking; the opposite profile is characteristic of the female gender: greater proportion of low-risk pattern and lower frequency of binge drinking[26-27,31-32].

In a multicenter study carried out in Peru with medical students, male individuals presented a two-fold consumption frequency in relation to females; in addition, it was positively associated with the dependence profile[20]. In Brazil, the male gender has also been associated with alcohol consumption at some point in the life of university students[33].

The present study evidenced that 147 (86.47%) of the interviewees had a habit of drinking alcohol with initiation in the age group from 10 to 25 years old, a characteristic associated with the AUDIT consumption profile. It is observed that, in comparison to other studies, this is a broader age range[7,20,29,32,34] that includes the period of entry in higher education, a situation that indicates the need for prevention strategies, promoters of responsible attitudes towards alcohol use.

In terms of the type of alcoholic beverage most consumed, a higher prevalence is identified for beer,

a characteristic that is in line with other research studies[7,25,29], and which was also associated with the AUDIT consumption profiles. It is argued about the easy access to these types of beverages, besides being found everywhere and at low prices[4,19-20].

The factors previously discussed reflect on the sociodemographic characteristics observed in this research and support an argument in favor of promotion and prevention. In this sense, education on alcohol use involving teachers and students contributes to developing criticality and autonomy about the conscious use of alcohol beverages, as well as sensitization to the early detection of problems arising from abusive or harmful use. A number of studies indicate little change in the knowledge level of the students between the beginning and the end of the course[30] and this problem is an area of tensions still permeated by institutional silencing[31].

The results of this research allowed identifying the sociodemographic variables that influence the pattern of alcohol use among Nursing and Nutrition students. It was evidenced that the age group between 18 and 23 years old, living with friends, and having had the first contact with alcohol between the ages of 10 and 17 years old were associated with the low-risk and harmful consumption patterns. The high prevalence of alcohol use, binge drinking, and frequency of students who report negative repercussions due to the use of alcohol is emphasized.

The contribution to the health area and its interface with education is in the fact that the pattern of alcohol use among university young individuals constitutes a proper tool for higher education institutions. Its use allows planning strategic prevention interventions aiming at reducing the behavioral and health risks associated with this problem among the students, as well as increasing student's knowledge level throughout university life. In addition to that, this study adds to others that aim to characterize and discuss the epidemiological profile of alcohol consumption among the population of university students.

The limitations of this study refer to the sample being restricted to two courses in the health area and to data collection in 2016. These considerations, however, do not weaken the discussion of the results found in this research with those of other studies developed in the national and international scenes, a fact that indicates the contemporaneity of the research problem and helps to direct the public policies.

Conclusion

Given the results of this research, it was detected that, among Nursing and Nutrition students, there is predominance of the low-risk pattern of alcohol use, with

initiation in the age range that precedes entry to higher education. It was verified that alcoholic beverages of the fermented type are more consumed by this population that is also characterized by the predominance of the female gender, single, and living in student housings. Among the associations detected in the low and harmful risk consumption profiles are the sociodemographic variables: age group between 18 and 23 years old, first contact with alcoholic beverages between 10 and 17 years old, and living with friends. The use of fermented alcoholic beverages was more frequent among those in the low-risk profile.

Thus, outlining the profile of students and the use pattern contributes to knowing the exposure and protection variables, allowing for the development of assertive strategies with regard to education and health promotion, as well as the prevention of problems and diseases related to the use and abuse of alcohol, reducing future risks.

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