Prevalence and factors associated with alcohol and tobacco use among undergraduate nursing students

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ABSTRACT

The aim of the study was to evaluate the prevalence and factors associated with alcohol and tobacco use among undergraduate nursing students. A cross-sectional study was conducted with 974 students, applying a survey on socioeconomic data, alcohol use, smoking and health perception, and performing descriptive analysis and logistic regression. Of the participants, 78.8% were women and 62.6% were between 20 and 29 years old. Overall, 65.1% of the participants consume alcohol; and 3.0% of the students were classified as being at risk for alcoholism. In relation to smoking habits, 81.8% of the women and 68.8% of the men started smoking before entering university (p<0.05). Students living with their parents or relatives had a higher prevalence of smoking (22.8%) and alcohol use (66.3%), and the lower the self-perception of health, the greater the consumption. The results highlight the need for preventive actions for the adolescent population, since many acquired the habits before entering higher education.

Descriptors: Ethanol; Tobacco; Prevalence; /prevention & control; Students, Nursing.

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INTRODUCTION

According to the World Drug Report 2016 of the United Nations Office on Drugs and Crime (UNODC)[1], the prevalence of drug use around the world remains stable. It is estimated that a total of 246 million people, or 5% of the global population between 15 and 64 years of age, used illicit drugs in 2013. People with drug use problems, on the other hand, amounted to about 27 million people, approximately 0.6% of the world's adult population, or one in 200 people[1].

More than half the population of the Americas and Europe have experimented alcohol at some point in their lives[2]. Illicit drug use has affected 4.2% of the world's population, with marijuana having the highest consumption (144 million people), followed by amphetamines (29 million), cocaine (14 million) and opium (13.5 million)[3].

At present, in Brazil and in the world, the use and abuse of alcohol and/or other licit drugs have been increasing progressively among people of all social classes, especially among young people[4]. It is a public health problem that has received greater attention in recent times because of the cultural, legal, ethical, political, economic and technological implications on the individual, family and society[5]. Thus, it requires attention not only from parents and guardians of the youth, but also from society, educators, health professionals and the scientific community[6].

Currently approximately 3.3 million annual deaths (accounting for 6% of all deaths worldwide) are directly or indirectly related to alcohol consumption[7]. Young individuals (between 20 and 49 years) are the main victims in relation to deaths associated with alcohol use, representing an important loss of economically active people[7].

Tobacco use accounts for about six million deaths a year worldwide[7]. In 2011, smoking was a causal factor in 14,072 deaths in Brazil, corresponding to 14.7% of all deaths in the country. Nowadays, tobacco kills more than alcoholism, AIDS, traffic accidents, homicides and suicides combined, which is a worrying situation for world authorities[8].

In Brazil, the prevalence of alcohol use among university students in the capital cities of Brazilian states in 2009 was 86%, and 22% were at risk of becoming alcohol dependent[9]. This is concerning because alcohol use has been linked to lower academic performance; organic, social and behavioral problems; the use of other drugs and can also lead to job loss[10].

Starting university is a time of lifestyle change for young people, especially when they are away from home, which is often the case. It is a time when they can adopt unhealthy habits, which can last throughout life, with harmful consequences both in the present and the future[11].

The use and excessive consumption of alcohol and other psychoactive substances may reduce the life expectancy of university students, as it predisposes them to car accidents, violence, unprotected sex and HIV transmission, sleep disorders, changes in eating habits, a lack of awareness, stress, and academic difficulties[12].

At university, young people are seeking personal growth and career preparation, however, this social environment can be the starting ground for the excessive use of alcohol and other licit and illicit drugs[13].

To minimize the consequences of alcohol and tobacco abuse, existing public policies must be implemented, as they are important means to reduce social and economic inequalities, and to ensure equal access to goods and services, including health care[14].

In this context, emphasis is placed on the need for health promotion, understood as transversal articulation strategies focused on the key factors of the health-disease process of the population and on the differences between needs, territories and cultures present in Brazil, to create mechanisms that reduce vulnerability, and that insist on social participation and public control[15].

Consequently, this study has relevance when trying to investigate and understand the characteristics and profile of undergraduate nursing students, a concern that has not yet received attention from scholars. From the research, this study intends to highlight future interventions in the fight against smoking and alcohol.

Thus, the aim of this study was to evaluate the prevalence and factors associated with alcohol and tobacco use among undergraduate nursing students at the University Center of the Federal District - UFD.

METHODS

This cross-sectional epidemiological study was conducted randomly with undergraduate nursing students of both sexes at the University Center of the Federal District - UDF. The researchers invited 100% of the registered students to participate, resulting in a sample of 974 participants from a total of 1,883 students between the 1st and the 8th semester.

To participate in the study, students had to be enrolled in the undergraduate nursing program and be present in the classroom at the time when the researchers collected data.

Data collection was carried out between August and October 2016 by trained researchers. Students completed an anonymous questionnaire concerning health-related life habits. The variables included: age, sex, type of high school (public, private, partial private school or other - community schools), socioeconomic level (ABEP - Brazilian Association of Research Companies - 2014 - http://www.abep.org/)[16], place of residence (with parents or relatives, dormitories, house/apartment shared with friends, alone or others), frequency of drinking alcohol (never drank, once a month or less, 2-4 times a month, 2-3 times a week , and four or more times a week) and smoking (never smoked, had experimented, smokes at parties or on the weekend, was previously a smoker, and smokes currently). Other variables included the time when he or she developed the habit of drinking and/or smoking (before or after starting university) and their self-perception of health (excellent, very good, good, fair and poor). The survey was applied in the break between classes, in a room with a capacity for 60 students, so that it could accommodate the students of each class with sufficient space between them to preserve the privacy of their answers. Upon completion, the surveys were placed inside a brown envelope identifying only the class and the time the class took place (morning, afternoon and night).

In the nursing classroom, before the survey and the informed consent forms were distributed, the researchers introduced themselves to the teacher in charge of the class, who had previously been informed of the objectives and methodology of the research. Then, the researchers introduced themselves to the class and explained the objectives, methodology, and importance of the study and invited them to participate in the research.

To evaluate alcohol consumption, a question was asked about how often the student drinks. For students who reported some type of consumption, the CAGE questionnaire[17] was used. The CAGE questionnaire is a widely used instrument that classifies suspected cases of alcoholism by means of affirmative answers to two or more of

their questions. The questionnaire is composed of four questions represented by the keywords associated with each letter: C - Cut down (decrease ingestion); A - Annoyed (riled up); G- Guilty (guilty); E - Eye-Opener (need to drink when waking up to avoid hangover). When two or more affirmations are obtained, suspected alcohol abuse is confirmed. The validation of the CAGE test in Brazil had a sensitivity of 88% and a specificity of 83%[18].

Subsequently, alcohol use was classified into two groups: "consumers" who reported drinking at least once a month and "non-consumers" who never drank alcohol.

The participants who reported "yes" to smoking, were questioned whether they acquired smoking before or after starting university. The analysis was divided into two groups: firstly, smokers, those who reported smoking cigarettes at parties or on weekends and those who smoke regularly; secondly, non-smokers, considered as those who do not currently smoke cigarettes, even if they had previously been smokers.

Data were double-digitized and checked for possible inconsistencies. Statistical analyses were performed in Stata 9.0. Initially, descriptive analyses (with means and proportions) were carried out and, finally, association analyses were conducted using chi-square tests for heterogeneity and logistic regressions, with a significance level of 0.05 and a 95% confidence interval.

The study followed the guidelines of Resolution No. 466/2012 of the National Health Council and was approved by the Research Ethics Committee of the University Center of the Federal District, receiving approval (CAAE: 59713316.0.0000.5650) in 2016.

RESULTS

Of the 1,883 students enrolled, 974 students participated in the study and 78.8% were female and 21.2% were male. The mean age of the students was 25.4 ± 6.1 years, and 62.6% were between 20 and 29 years old. Table 1 describes the sample according to demographic, socioeconomic and health variables. Regarding the type of school in secondary education, 71.2% studied in a public school and 68.5% lived with their parents or relatives. In terms of self-perceived health, 43.4% of the participants considered their health as "good" and 25.4% as "very good".

Table 1: Description of the sample according to demographic and socioeconomic
variables and self-perceived health. Brasília, FD, Brazil, 2016.

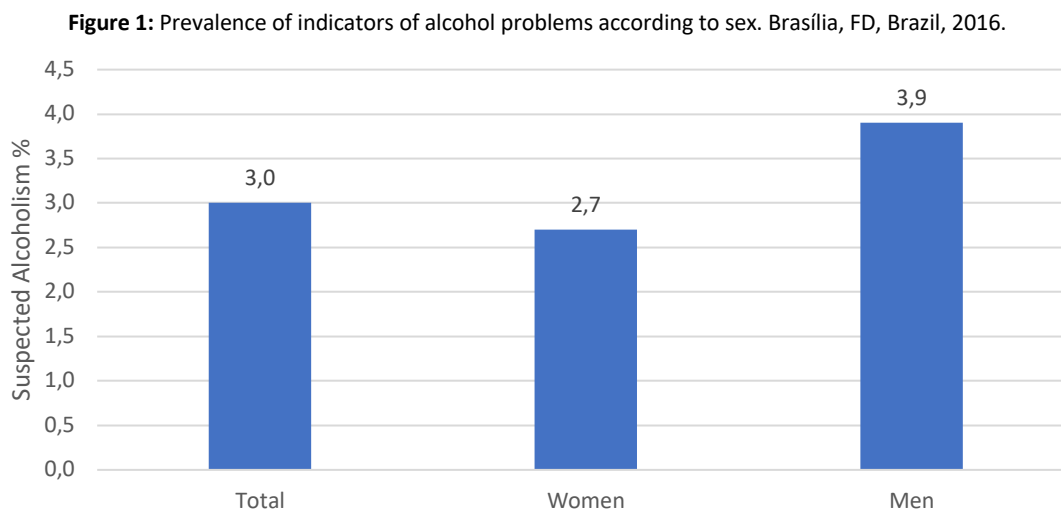| Variables	N	%
Sex		
Female	767	78.8
Male	207	21.2
Age		
< 20	152	15.6
20 a 29	610	62.6
> 30	212	21.8
Type of high school		
Public school	693	71.2
Private school	200	20.5
Partial private school	43	4.4
Other	38	3.9
Socioeconomic level		
A	41	4.2
B	269	27.6
C	552	56.7
D	112	11.5
Place of residence		
Parents or relatives	667	68.5
Dormitory	3	0.4
House shared with friends	55	5.7
Alone	82	8.4
Other	167	17.2
Self-perceived health		
Excellent	109	11.2
Very good	247	25.4
Good	423	43.4
Average	174	17.8
Poor	21	2.2
Total	**974**	**100**

Alcohol consumption and smoking are described in Table 2. Of the sample, 37.2% of participants reported that they consumed alcohol at least once a month, and there was no difference according to sex.

Table 2: Alcohol and tobacco consumption, according to sex, among undergraduate nursing students of the University Center of the Federal District. Brasília, FD, Brazil, 2016

Variable	Total		Female		Male	
	N	%	N	%	N	%
Alcohol consumption				P = 0.652		
Had never drunk	340	34.9	265	34.6	75	36.2
Once a month or less	363	37.2	292	38.1	71	36.2
2-4 times per month	200	20.5	153	20.0	47	22.7
2-3 times per week	62	6.4	50	6.5	12	5.8
4 or more times per week	9	0.9	7	0.9	2	1.0
Total	**974**	**100**	**767**	**100**	**207**	**100**
Tobacco use				P = 0.144		
Had never smoked	751	77.1	598	77.9	153	73.9
Experimented, but not regularly	116	11.9	86	11.2	30	14.4
Smokes at parties or on the weekend	50	5.1	38	4.9	12	5.8
Previously a smoker, but quit	32	3.2	26	3.3	6	2.9
Current smoker	25	2.5	19	2.4	6	2.9
Total	**974**	**100**	**767**	**100**	**207**	**100**

Regarding smoking, 5.8% of male students reported that they smoke at parties or on the weekend. This percentage was lower in females (4.9%). Among the students, 3.2% said they had previously been smokers but had quit, and approximately 77.1% of the sample reported never having smoked.

Figure 1 shows suspected alcoholism according to the CAGE test, where 3.0% of the students presented positive results, of whom 3.9% were males and 2.7% were females.

Figure 1: Prevalence of indicators of alcohol problems according to sex. Brasília, FD, Brazil, 2016.

Moreover, the students who consume alcohol, women (94.2%) and men (91.7%), reported that this habit was acquired before entering university, with no significant difference according to sex. A similar scenario was found for smoking. Overall, 81.8% of the female students and 68.8% of the male students had started smoking before entering university (p<0.05) (Table 3).

Table 3: Sample description according to the starting point of drinking alcohol and/or smoking cigarettes. Brasília, FD, Brazil, 2016.

Variables	Female N (%)	Male N (%)
When the subject started drinking	P = 0.282	
Before entering university	473 (94.2)	121 (91.7)
After entering university	29 (5.8)	11 (8.3)
Total	**502 (100.0)**	**132 (100.0)**
When the subject started smoking	P = 0.056	
Before entering university	117 (81.8)*	33 (68.8)
After entering university	26 (18.2)	15 (31.3)
Total	**143 (100.0)**	**48 (100.0)**

* Chi-square test of heterogeneity.

Table 4 shows the association between alcohol and tobacco use with demographic, socioeconomic and health variables. Students between the ages of 20 and 29 had a higher prevalence of drinking alcohol (67.5%) and smoking (21.3%). Students who had partially attended private high schools were more likely to be alcohol and tobacco users. Similarly, the socioeconomic B level group had a higher probability of drinking alcohol and smoking cigarettes.

Table 4: Association of alcohol consumption and smoking with demographic, socioeconomic and health variables. Brasília, FD, Brazil, 2016.

Variable	Alcohol consumption		p-value	Smoking		p-value
	%	OR (IC95%)		%	OR (IC95%)	
Sex						
Female	65.5	1.00	0.653	18.6	1.00	0.150
Male	63.8	0.93 (0.77-1.28)		23.2	1.32 (0.91-1.91)	
Age						
< 20	57.2	1.00		21.7	1.00	
20 a 29	67.5	1.55 (1.08-2.24)	0.054	21.3	0.92 (0.60-1.42)	0.299
> 30	63.7	1.31 (0.86-2.01)		16.0	0.69 (0.40-1.17)	
Type of high school						
Private school	71.0	1.00		22.5	1.00	
Public school	62.9	0.69 (0.49-0.98)	0.158	18.2	0.77 (0.52-1.12)	0.097
Partial private school	69.8	0.94 (0.46-1.93)		32.6	1.67 (0.81-3.41)	
Other	68.4	0.89 (0.42-1.87)		15.8	0.65 (0.25-1.64)	
Socioeconomic level						
A	68.3	1.00		34.2	1.00	
B	65.8	0.89 (0.44-1.80)	0.940	20.1	0.48 (0.24-0.99)	0.072
C	64.9	0.86 (0,43-1.69)		19.4	0.46 (0.24-0.91)	
D	63.4	0.80 (0.78-1.70)		14.3	0.32 (0.14-0.74)	
Place of residence						
House shared with friends	72.7	1.00		16.4	1.00	
Parents or relatives	66.3	0.74 (0.40-1.36)	0.224	22.8	1.50 (0.72-3.15)	0.02
Alone	59.8	0.56 (0.27-1.17)		11.0	0.73 (0.23-1.70)	
Other	60.6	0.58 (0.30-1.13)		12.4	0.72 (0.31-1.68)	
Self-perceived health						
Good	68.8	1.00		18.9	1.00	
Excellent	56.9	0.60 (0.40-0.92)		21.1	1.15 (0.68-1.93)	
Very good	66.4	0.90 (0.64-1.25)	0.051	21.9	1.20 (0.81-1,77)	0.791
Average	58.6	0.64 (0.45-0.93)		17.2	0.89 (0.56-1.41)	
Poor	71.4	1.13 (0.43-2.98)		19.1	1.01 (0.33-3.07)	

Students living with their parents or relatives had a higher prevalence of smoking (22.8%) and alcohol consumption (66.3%) and, in contrast, the lower the self-perception of health, the greater the probability of alcohol consumption.

DISCUSSION

The present study is one of the first studies on smoking and alcohol consumption in a representative sample of university students in the city of Brasília-FD. The results presented here may serve as a basis for future interventions aimed at promoting healthy habits among students.

A study carried out in more than 100 Brazilian cities with more than 200 thousand inhabitants showed that alcohol consumption is very relevant in the age group of 18 to 24-year olds and that 15.5% of this population are alcohol dependents[19]. Among medical students, the percentage of excessive use varied from 25% to 98% in some regions, depending on the sample and means of data collection [19]. Students from Juiz de Fora, for example, presented a prevalence of 25% of excessive use [20].

Brazilian youth have developed the habit of getting drunk. Epidemiological studies in Brazil show that alcohol consumption is higher among university students than among high school students[20]. In the present study, most of the students started drinking alcohol and/or smoking tobacco before entering university, which can be attributed to the influence of friends and families.

The data from the current study are relevant to show that preventive measures should be started in high school, where the early use of alcohol has been a cause of concern in schools and families, where the greatest challenge lies in the creation of new public policies for the prevention of alcohol abuse.

Education begins at home, and parents may not think it is the school's duty to educate. The role of the school is to teach. Different verbs, different actions. We believe that projects focusing on the prevention of alcohol use in high school will only be effective with the participation and intervention of parents together with the school. It is the school's responsibility to include teenagers and their families in social projects aimed at combating the early use of drugs. Schools should also accept help from the community.

The school has a duty to fulfill its social role together with the parents of teenagers, where lectures given by "ex-dependents" can show the serious effects of alcohol.

The Pediatrics Society of São Paulo launched the campaign for alcohol-free pregnancy, with the aim of creating awareness about Fetal Alcohol Syndrome (FAS), to prevent babies being born with disabilities.

Other settings, besides schools, can promote drug prevention, such as community and health services, pediatricians and the Center for Support and Adolescent Care.

It is believed that alcohol consumption increases with a change in lifestyle, stress, depression and low self-esteem[20]. University students are exposed to environments where access to alcohol is easier. This points to a greater need for the academic environment to provide effective support and training for students to stop drinking [19].

A study carried out with 174 students from a public university in São Luís, Brazil, observed that 59% of respondents had already abused some type of alcoholic beverage, of which 20.7% reported having been drunk in the last 19 days, and 14.9% in the last five days prior to data collection[21].

On the other hand, a study carried out in the city of Piracicaba, in the state of São Paulo, evaluated alcohol consumption and quality of life among university students. The sample consisted of 170 individuals of both sexes, where it was observed that 68.20% of the participants were consuming alcohol at low-risk rates, 21.80% were at high risk, and 5.29% of the students were likely to be dependent on alcohol [16].

Similarly, results found by a survey carried out in a public university in São Paulo with 112 undergraduate nursing students, between the ages of 17 and 28 years, found that 79.5% of the individuals were at low risk for alcohol dependence[17].

In the sample group, there was a predominance of females. In agreement with the results of the present study, an earlier study[18] investigating alcohol consumption found that the majority were female (61.6%) and only 38.4% of the sample was male, as well as in several other studies on alcohol use, which corroborates with the findings[19-20].

A study carried out with nursing students at a private institution in the city of Montes Claros-MG showed an alcohol consumption of 77.4%, with a slightly higher prevalence among individuals of socioeconomic level B[21]. In the present study, the group of socioeconomic level C presented greater probability of consuming alcohol and tobacco.

One explanation for the high pattern of alcohol consumption by women is that increased financial independence, the achievement of certain rights and positions in society, and the struggle for gender equality has led women to adopt some typically male habits, including alcohol consumption[21].

Surveys conducted in Chile with 490 university students[22] and in Colombia[23] with 1,324 university students, reveal that men in social science courses smoke more tobacco than women.

Smoking was observed in 17% of medical students in Vassouras[24], a number well above other similar surveys conducted with university students in Pouso Alegre-MG, which showed a prevalence of 7.8%[25].

We observed in our study that there was a correlation in individuals between alcohol consumption and "bad" self-perceptions of health. This shows how negative health perceptions influence the individual's decision to seek a doctor or a health service[24], and that this negative perception of health increases the prevalence of risk behaviors.

According to some authors, health self-assessment is an important factor in predicting health problems that would only be detected later[24]. Self-assessment of health is an important indicator of the multidimensional health construct, and is therefore a subjective indicator, encompassing both physical and emotional components of individuals, as well as aspects of well-being and satisfaction with one's life.

Advertisements of alcoholic beverages influence the use of these substances by young people, since they, for the most part, are aimed at this audience. In Brazil, there are almost no programs creating awareness of the dangers of alcohol abuse, and there are almost no restrictions on advertisements about alcoholic beverages when they are advertised to the public[19].

The limitation of this research concerns the transversal design of the study that made it impossible to identify the temporal precedence of the factors, compromising the evidence of cause and effect. Thus, it is important to conduct further studies on the harm caused by alcohol and tobacco abuse among university students in the health area, as they are to be health experts and health promoters.

Future studies should investigate other health-related behavior and elicit information about the presence or absence of diseases, as this variable was not investigated in this study. Thus, proposals are suggested for clarifying the consequences of alcohol and tobacco consumption, involving the family as a form of awareness and behavior of the young person through the strengthening of family ties, including the school in the discussion of the effects of these drugs and the continuity of health education strategies aimed at alcohol and tobacco use.

CONCLUSION

The prevalence of alcohol consumption among nursing students is high, with a higher frequency among women (65,5%). The data suggest the need for interventions in the academic environment. However, it should be noted that actions for the adolescent population as a whole should be prioritized, since more than 80% of students acquired their habits before attending university.

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