Tobacco and alcohol consumption and health behaviors among nursing students*

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Abstract

Objective: To evaluate the association between attitudes, health behaviors, and the use of tobacco and alcohol among nursing students.

Materials and method: Exploratory, descriptive and cross-sectional study conducted with 182 undergraduate nursing students in the countryside of São Paulo, Brazil. Sociodemographic Information Form, Alcohol Use Disorders Identification Test – C (AUDIT-C), Fagerström Test for Nicotine Dependence (FTND), Attitudes and Health Behaviors Questionnaire (AHBQ), and Patient Health Questionnaire – 2 (PHQ-2) were applied.

Results: More than half of the students showed appropriate health behaviors and positive attitudes. Approximately 50% of the participants had consumed alcoholic beverages in the last month. Experimental use of illicit drugs and smoking were also observed. In addition, students who reported excessive alcohol use presented a deficit in self-care.

Conclusions: The precariousness in health attitudes and behaviors identified in this study was associated with various patterns of psychoactive substance use. Thus, the results indicate the need for interventions aimed at promoting well-being and a healthy lifestyle in the university environment.

Descriptors: Nursing Students; Lifestyle; Health Behaviors; Substance-related Disorders (source: DeCS, BIREME).

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Consumo de tabaco y alcohol y comportamientos de salud entre estudiantes de enfermería

Resumen

Objetivo: evaluar la asociación entre las actitudes, los comportamientos de salud y el uso de tabaco y alcohol entre un grupo de estudiantes de enfermería.

Materiales y método: estudio exploratorio, descriptivo y transversal realizado con 182 estudiantes de pregrado en enfermería en São Paulo, Brasil. Se aplicaron los siguientes instrumentos: Formulario de Información Sociodemográfica, Prueba de Identificación de Trastornos Derivados del Consumo de Alcohol – C (AUDIT-C), Test de Fagerström para Adicción a la Nicotina (FTND), Cuestionario sobre Actitudes y Conductas de Salud (CACS) y Cuestionario de Salud del Paciente – 2 (PHQ-2).

Resultados: más de la mitad de los estudiantes mostraron comportamientos de salud apropiados y actitudes positivas. Aproximadamente 50 % de los participantes había consumido bebidas alcohólicas en el último mes. También se observó el uso experimental de drogas ilícitas y tabaco. Además, los estudiantes que reportaron el consumo excesivo de alcohol presentaron un déficit en el autocuidado.

Conclusiones: la precariedad en las actitudes y los comportamientos de salud identificados en este estudio fue asociada con diversos patrones de uso de sustancias psicoactivas. Los resultados señalan la necesidad de intervenciones destinadas a promover el bienestar y un estilo de vida saludable en el ámbito universitario.

Descriptores: Estudiantes de Enfermería; Estilo de Vida; Conductas Relacionadas con la Salud; Trastornos Relacionados con Sustancias (fuente: DeCS, BIREME).

O consumo de tabaco e álcool e os comportamentos de saúde em estudantes de enfermagem

Resumo

Objetivo: avaliar a associação entre as atitudes, os comportamentos de saúde e o uso de tabaco e álcool num grupo de estudantes de enfermagem.

Materiais e método: estudo exploratório, descritivo e transversal realizado com 182 estudantes de graduação em enfermagem em São Paulo, Brasil. Foram aplicados os seguintes instrumentos: Formulário de Informação Sociodemográfica, Teste de Identificação de Transtornos Derivados do Consumo de Álcool-C (AUDIT-C), Teste de Fagerström para a Dependência de Nicotina (FTND), Questionário sobre Atitudes e Condutas de Saúde (CACS) e Questionário de Saúde do Paciente-2 (PHQ-2).

Resultados: mais da metade dos estudantes mostraram comportamentos de saúde apropriados e atitudes positivas. Aproximadamente 50 % dos participantes tinham consumido bebidas alcoólicas no último mês. Também foi observado o uso experi-

mental de drogas ilícitas e tabaco. Além disso, os estudantes que relataram o consumo excessivo de álcool apresentaram um déficit no autocuidado.

Conclusões: a precariedade nas atitudes e comportamentos de saúde identificados neste estudo foi associada com diversos padrões de uso de substâncias psicoativas. Os resultados indicam a necessidade de intervenções destinadas a promover o bem-estar e um estilo de vida saudável no contexto universitário.

Descritores: Estudantes de Enfermagem; Estilo de Vida; Comportamentos Relacionados com a Saúde; Transtornos Relacionados com Substâncias (fonte: DeCS, BIREME).

Introduction

Attitudes and health behaviors have been recognized as determinants of the health status and well-being of individuals (1). For this reason, the absence of policies and actions towards health promotion can contribute to the increase in the global burden of disease around the world. Chronic diseases are consequences of the predominance of unhealthy lifestyles and behavior patterns in the population (1).

College students comprise a significant share of the population and, since they are in a transition process between adolescence and adulthood, they are considered individuals in a situation of psychosocial vulnerability. The period of college life is considered a critical stage of the life cycle, even though it is recognized as transitory and dynamic, and may favor the adoption of risk behaviors that affect students' physical, mental, social, and economic health (2). Therefore, the "current lifestyle" adopted by students, especially regarding eating habits and the practice of regular physical activity, could determine their health conditions (3).

The changes experienced in college life regarding academic routines and the practice of healthy behaviors are of special interest to public health. Therefore, studies that seek to examine the physical and mental health of students are necessary to support the development of public health policies, especially due to the high rates of health risk behaviors observed in the academic context, such as uncontrolled body weight, decreased physical activity, and increased use of psychoactive substances (2).

In recent decades, works with different methodological approaches have been conducted in order to study college students' health, with a greater focus on the consumption of psychoactive substances. In Brazil, almost half of the university population (48.7%) has used psychoactive substances (excluding alcohol and tobacco products) at some point, with 86.2% reporting alcohol use and 46.7% tobacco use (4). Alcohol consumption is a frequent practice among college students in several regions around the world —often seen as a mediator of social relationships— that can cause serious consequences in the biopsychosocial sphere in the short and long term (5).

Among Brazilian nursing students, 84.4% have consumed psychoactive substances, 57.2% have consumed alcoholic beverages, and 26.7% have associated alcohol consumption with another illicit substance (6). A study conducted with 260 nursing students in Mexico showed that 64.6% had drunk at least once in their lifetime (7). In addition, a study that investigated past-year substance use among 4,033 student members of the United States National Student Nurses' Association (NSNA) showed that 61% of them reported binge drinking, 18% marijuana use, 5% illegal drugs use other than marijuana, and 10% reported the use of non-prescription drugs (8).

Health students, such as future nursing professionals, are considered a specific population group

of strategic society development since they will produce and share systematized knowledge in the community (6). These are professionals responsible for applying their skills and competencies with emphasis on healthy attitudes and behaviors within the population (2).

The easy access to psychoactive substances among college students and the attitudes adopted by this social segment often go in the opposite direction to the desired adoption of healthy behaviors, which makes the need to study these variables in different populations and regions imminent. Most studies available to date have assessed health behaviors in isolation (2, 4, 6), with emphasis only on the prevalence of substance use. Therefore, no studies on health behaviors addressing the combination of nutritional factors, physical activity, sexual behaviors, self-care, depression, psychoactive substance use, and care for the environment among nursing students were identified.

With the above in mind, and considering the relevance of the topic and the need to provide consistent evidence, this study sought to evaluate the association between attitudes, health behaviors, and tobacco and alcohol use among nursing students.

Materials and methods

This is an exploratory, descriptive, and cross-sectional study conducted at a higher education institution in Vale do Ribeira, in the southern coast of the State of São Paulo (Brazil). The study was approved by the Research Ethics Committee of União das Instituições de Serviços, Ensino e Pesquisa LTDA (Protocol No. 1.589.998, CAAE: 56601316.4.0000.5490). All steps were conducted in accordance with the Resolution No. 466/2012 of the National Health Council of Brazil (9), responsible for regulating research on human beings. All the participants were informed about the research objectives and signed the informed consent form (ICF).

The sample size was calculated based on the number of students enrolled in all years of the undergraduate nursing course (N = 261). For the design, we considered 95% reliability and 2% precision. According to the sample calculation, the minimum estimated number was 156 students. To participate in the study, the eligibility criteria were defined as follows: being regularly enrolled in the course, of all genders, over 18 years, and present in class at the time of data collection. At the end of data collection, a total of 182 students participated in the study, representing 69.7% of the studied population.

Data collection occurred from August to November 2016, in the classroom, with the approval of the course coordinator. The methods used were submitted to comprehension evaluation through a pilot test with 10 students, who were not part of the final sample. The time required to complete the test was approximately 20 minutes.

At the time of data collection, the students who were present in the classroom were oriented as to the objectives of the study and the completion of the questionnaire after their acceptance by signing the ICF. The data collection instrument was made up of five parts:

i) Sociodemographic information form: gathered information on gender, marital status, age group, employment status, current health status, belief that health care is reflected in the care provided to the patient, and use of psychoactive substances.

ii) Alcohol Use Disorders Identification Test - Consumption (AUDIT-C) (10): a brief version of the AUDIT that contains three questions that identify the quantity, frequency, and consumption of alcohol in the binge drinking pattern. To understand the results it is

necessary to sum the answers, which vary on a scale from 0 to 12 points. For men, the following scores are adopted: 0 to 3 low risk; between 4 and 5 moderate risks; between 6 and 7 high risks; from 8 to 12 severe risk. For women: 0 to 2 low risk; 3 to 5 moderate risk; 6 to 7 high risk; between 8 and 12 severe risks. Scores ≥ 5 points for men and ≥ 4 points for women are considered excessive alcohol consumption. In this study, we used the classification of alcohol use (abstainers/low risk and at-risk) and the third item of this survey, which characterizes binge drinking.

iii) The Fagerström Test for Nicotine Dependence (FTND) (11): tool that assesses the levels of nicotine dependence. The FTND consists of six items on habits and behaviors related to tobacco use. This tool was adapted for the Brazilian population, presenting good indices of reliability (12). The classification of nicotine dependence occurs in five levels according to the sum of the points obtained after the test: 0-2 very low, 3-4 low, 5 medium, 6-7 high, and 8-10 very high.

iv) Attitudes and Health Behaviors Questionnaire (AHBQ) (13): tool developed from the *Life-Style Assessment Questionnaire*, also known as the Wellness Inventory (14). The AHBQ has 28 items and presents the following categories: 1) Physical exercises: commitment to keep oneself in good physical condition; 2) Nutrition: choice of healthy foods that benefit health; 3) Health self-care: behaviors that facilitate the prevention or early detection of diseases; 4) Traffic safety: ability to reduce the likelihood of injury or death in motor vehicle accidents; 5) Use of drugs or similar: ability to perform tasks without the need to consume psychoactive substances, prescribed or otherwise; 6) Sexual behavior; and 7) Environmental care.

The AHBQ is evaluated in the Likert-type scale with five response alternatives: 1 = Almost always (90% or more of the time); 2 = Very often (about 75% of the time); 3 = Often (about 50% of the time); 4 = Occasionally (25% of the time); 5 = Rarely (less than 10% of the time). After summing up the items, the closer to 100% the better the habits and health behavior (13). For this study, in the statistical analyses, the responses of the AHBQ tool were recoded into two responses, whose alternatives "Almost always," "Very often," and "Often" were considered healthy health habits and behaviors, while alternatives "Occasionally" and "Rarely" as precarious health habits and behaviors.

v) Patient Health Questionnaire - 2 (PHQ-2): used for the fast screening of symptoms suggestive of depression (15) derived from the Patient Health Questionnaire - 9 (PHQ-9). This tool presents two questions to assess the presence of depressed mood and anhedonia in the past two weeks. The answers vary from 0 to 3 points (0 never and 3 almost every day), with a maximum score of 6 points. Values ≥ 3 points are considered suggestive of depression. In these cases, the PHQ-9 should be complementarily applied to assist in the clinical screening for the definitive diagnosis of depression.

Data analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. Descriptive analyses of categorical variables, distribution of absolute and relative frequencies, and/or mean, median, and standard deviation were performed. Fisher's Exact Test or Chi-square (χ^2)

were used to evaluate the association between socio-demographic information, health behaviors (independent variable), psychoactive substance use, and depression symptoms. For all analyses, a 5% significance level was considered. The following hypotheses were tested: Nursing students who present poor health behaviors show 1) association with alcohol and tobacco use; 2) association with psychological and physical health problems; and 3) higher probability in illicit drug use.

Results

Of the 182 participants, 137 (75.3%) were female, without a partner (105; 60.9%), with a mean age of 26.7 (SD = 8.0) years and a range of 17 to 54 years. More than half of the participants worked during the day (126; 69.2%), 86 (47.3%) considered their health status at that time as stable, and 82 (45.1%) indicated improvement needs. Among participants, 175 (96.2%) believed that the care for their health could be reflected in the assistance given to the patient. Regarding the use of psychoactive substances, almost half of the students (90; 49.5%) used alcoholic beverages. As for the experimental use of illicit drugs, 19 (10.4%) reported this situation at some point in their lives and 10 (5.5%) had consumed tobacco products.

More than half of the students were classified with a stable level regarding health habits and behaviors, 97 (53.3%) practiced physical activities, 99 (54.9%) took care of nutritional aspects, 103 (57.1%) were attentive to self-care with health, 101 (55.5%) with the environment, 95 (52.7%) with sexual behaviors, 97 (53.8%) with safe transportation, and 95 (52.7%) with psychoactive substance use.

These behaviors were distinct among students based on gender, age, marital status, and work, with statistically significant values (Table 1). There were no statistical differences in the association analyses between sociodemographic characteristics with the health self-care category, as well as with the transportation, environment, and substance use categories (AHBQ).

Male students differed in frequent practice and care regarding physical activities (men 66.7% suitable versus women 51.1% precarious) when compared to women. However, for sexual-related care behaviors (men 61.4% precarious versus women 57.7% suitable, $p = 0.028$) and the use of drugs and similar (men 60.0% precarious versus women 56.9% suitable, $p = 0.048$), men showed higher percentages of precarious behaviors when compared to women, with statistically significant values.

The age group was associated with physical activity practice and nutritional care, in which 78.8% of younger students (17-19 years) were classified with proper physical activity practices and 57.4% of the participants aged 30-39 and 60% aged > 40 were more sedentary ($p = 0.008$). As for nutritional care behaviors, 69.7% of the youngest students had poor care, while all 15 students aged over 40 years were properly nourished ($p \leq 0.001$).

Marital status was associated with physical activity (single 67.6% suitable versus with partner 69% precarious, $p < 0.001$), nutrition (with partner 73.2% suitable versus single 56.8% precarious, $p < 0.001$), and sexual behavior (with partner 63.4% suitable versus single 53.86% precarious, $p = 0.025$), with statistically significant differences.

Finally, being currently working was associated only with the practice of physical activities, that is, students who did not work (66.1%) practiced properly physical activities when compared to 52.4% who worked and were sedentary ($p = 0.021$).

Table 1. Sociodemographic characteristics, attitudes, and health behaviors among nursing students, Registro, São Paulo, Brazil, 2016 (N = 182)

Variables	Attitudes and Health Behaviors Questionnaire (AHBQ) [n (%)]							
	Physical activity		Nutrition		Sexual behavior		Drug use or similar	
	HA	PR	HA	PR	HA	PR	HA	PR
Gender [a]								
Female	67 (48.9)	70 (51.1)	79 (57.7)	58 (42.3)	79 (57.7)	58 (42.3)	78 (56.9)	59 (43.1)
Male	30 (66.7)	15 (33.3)	21 (46.7)	24 (53.3)	17 (38.6)	27 (61.4)	18 (40.0)	27 (60.0)
	χ^2 (1) = 4.293 p = 0.038*		χ^2 (1) = 1.655 p = 0.198		χ^2 (1) = 4.841 p = 0.028*		χ^2 (1) = 3.897 p = 0.048*	
Age group[b]								
17-19	26 (78.8)	7 (21.2)	10 (30.3)	23 (69.7)	16 (48.5)	17 (51.5)	14 (42.4)	19 (57.6)
20-29	45 (51.7)	42 (48.3)	46 (52.9)	41 (47.1)	40 (46.5)	46 (53.5)	46 (52.9)	41 (47.1)
30-39	20 (42.6)	27 (57.4)	29 (61.7)	18 (38.3)	33 (70.2)	14 (29.8)	29 (61.7)	18 (38.3)
> 40	6 (40.0)	9 (60.0)	15 (100.0)	---	7 (46.7)	8 (53.3)	7 (46.7)	8 (53.3)
	χ^2 (3) = 11.946 p = 0.008*		χ^2 (3) = 21.412 $p \leq$ 0.001*		χ^2 (3) = 7.556 p = 0.056		χ^2 (3) = 3.146 p = 0.370	
Marital status[a]								
Single	75 (67.6)	36 (43.2)	48 (43.2)	63 (56.8)	51 (46.4)	59 (53.6)	54 (48.6)	57 (51.4)
Not single	22 (31.0)	49 (69.0)	52 (73.2)	19 (26.8)	45 (63.4)	26 (36.6)	42 (59.2)	29 (40.8)
	χ^2 (1) = 23.280 p < 0.001*		χ^2 (1) = 15.739 p < 0.001*		χ^2 (1) = 5.016 p = 0.025*		χ^2 (1) = 1.918 p = 0.166	
Work[a]								
No	37 (66.1)	19 (33.9)	29 (51.8)	27 (48.2)	32 (57.1)	24 (42.9)	25 (44.6)	31 (55.4)
Yes	60 (47.6)	66 (52.4)	71 (56.3)	55 (43.7)	64 (51.2)	61 (48.8)	71 (56.3)	55 (43.7)
	χ^2 (1) = 5.303 p = 0.021*		χ^2 (1) = 0.326 p = 0.568		χ^2 (1) = 0.548 p = 0.459		χ^2 (1) = 2.132 p = 0.144	

Note: a: Fisher's exact test; b: Chi-square test.
*$p \leq 0.05$. HA: healthy; PR: precarious.
One student did not answer the questionnaire completely, so there are variables with 181 answered cases.
Source: authors.

Traffic safety behavior (AHBQ) was not associated with substance use in this study. Almost all smoking (active) students had poor nutrition care (90.9%). One-third of students who drank at a high-risk level (AUDIT-C) showed precarious health care (30.9%) and almost all individuals with a moderate or very high level of nicotine dependence (FTND) (83.3%) also showed this trend. Environmental care was more precarious among students who drank at high risk levels (AUDIT-C) (56.7%, p = 0.009), binge-drank (56.8%, $p < 0.001$), and had consumed alcoholic beverages in the past year (54.9%, %, $p < 0.001$), with statistically significant differences. Sexual behaviors were associated only among students who experimented with illicit drug use ($p < 0.001$) (Table 2).

The behaviors related to physical activities, self-care with health, sexual behaviors, and use of drugs and similar (AHBQ) were not associated with health perceptions and symptoms suggestive of depression (PHQ-2). Students who viewed their current health as precarious (85.7%) or in need of improvement (48.8%) showed poor nutritional care. Less than half of the students with precarious sexual behaviors considered that health care is reflected in the care provided. Approximately one-third of those with symptoms suggestive of depression (n = 52) showed appropriate traffic safety behaviors (32.7%, p = 0.021) (AHBQ) (Table 3).

Table 2. Use of alcohol, tobacco, illicit drugs, attitudes and health behaviors, Registro, São Paulo, Brazil, 2016 (N = 182)

Variables	Attitudes and Health Behaviors Questionnaire (AHBQ) [n (%)]									
	Physical activity		Nutrition		Health self-care		Care environment		Sexual behavior	
	HA	PR	HA	PR	HA	PR	HA	PR	HA	PR
AUDIT-C										
Abstem/low risk	61 (52.5)	53 (46.5)	67 (58.8)	47 (41.2)	57 (50.0)	57 (50.0)	72 (63.2)	42 (36.8)	63 (55.8)	50 (44.2)
At risk	36 (52.9)	32 (47.1)	33 (38.5)	35 (51.5)	47 (69.1)	21 (30.9)	29 (43.3)	38 (56.7)	33 (48.5)	35 (51.5)
	χ^2 (1) = 0.006 p = 0.941		χ^2 (1) = 1.80 p = 0.179		χ^2 (1) = 6.35 p = 0.012		χ^2 (1) = 6.75 p = 0.009*		χ^2 (1) = 0.889 p = 0.346	
Experimental use of illicit drugs										
No	84 (51.5)	79 (48.5)	91 (55.8)	72 (44.2)	92 (56.4)	71 (43.6)	93 (57.4)	69 (42.6)	92 (56.8)	70 (43.2)
Yes	13 (68.4)	6 (31.6)	9 (47.4)	10 (52.6)	12 (63.2)	7 (36.8)	8 (42.1)	11 (57.9)	4 (21.1)	15 (78.9)
	χ^2 (1) = 1.950 p = 0.163		χ^2 (1) = 0.492 p = 0.483		χ^2 (1) = 0.313 p = 0.576		χ^2 (1) = 1.615 p = 0.204		χ^2 (1) = 8.720 p = 0.003*	
Binge drinking										
No	53 (57.0)	40 (43.0)	55 (59.1)	38 (40.9)	49 (52.7)	44 (47.3)	63 (67.7)	30 (32.3)	54 (58.7)	38 (41.3)
Yes	44 (49.4)	45 (50.6)	45 (50.6)	44 (49.4)	55 (61.8)	34 (38.2)	38 (43.2)	50 (56.8)	42 (47.2)	47 (52.8)
	χ^2 (1) = 1.04 p = 0.307		χ^2 (1) = 1.35 p = 0.245		χ^2 (1) = 1.541 p = 0.214		χ^2 (1) = 11.05 p < 0.001*		χ^2 (1) = 2.40 p = 0.121	
Alcohol (last year)										
No	49 (62.0)	30 (38.0)	49 (62.0)	30 (38.0)	44 (55.7)	35 (44.3)	55 (69.6)	24 (30.4)	47 (60.3)	31 (39.7)
Yes	48 (46.6)	55 (53.4)	51 (495)	52 (50.5)	60 (58.3)	43 (41.7)	46 (45.1)	56 (54.9)	49 (47.6)	54 (52.4)
	χ^2 (1) = 4.273 p = 0.039		χ^2 (1) = 2.827 p = 0.093		χ^2 (1) = 0.119 p = 0.730		χ^2 (1) = 10.85 p < 0.001*		χ^2 (1) = 2.867 p = 0.090	
Smoker (active)										
No	92 (53.8)	79 (46.2)	99 (57.9)	72 (42.1)	100 (58.5)	71 (41.5)	97 (57.1)	73 (42.9)	91 (53.5)	79 (46.5)
Yes	5 (45.5)	6 (54.5)	1 (9.1)	10 (90.9)	4 (36.4)	7 (63.6)	4 (63.4)	7 (63.6)	5 (45.5)	6 (54.5)
	χ^2 (1) = 0.289 p = 0.591		χ^2 (1) = 9.944 p = 0.002*		χ^2 (1) = 2.064 p = 0.151		χ^2 (1) = 1.794 p = 0.180		χ^2 (1) = 0.270 p = 0.603	
FTND										
Low Much / Low	96 (54.5)	80 (45.5)	99 (56.2)	77 (43.8)	103 (58,5)	73 (41.5)	98 (56.0)	77 (44.0)	92 (52.6)	83 (47.4)
Moderate / Very High	1 (16.7)	5 (83.3)	1 (16.7)	5 (83.3)	1 (16.7)	5 (83.3)	3 (50.0)	3 (50.0)	4 (66.7)	2 (33.3)
	χ^2 (1) = 3.345 p = 0.067		χ^2 (1) = 3.672 p = 0.055		χ^2 (1) = 4.151 p = 0.042*		χ^2 (1) = 0.085 p = 0.771		χ^2 (1) = 0.463 p = 0.496	

Note: Fisher's Exact Test. *$p \leq 0.05$. HA: healthy; PR: precarious.
One student did not answer the questionnaire completely, so there are variables with 181 answered cases.
Source: authors.

Table 3. Perceptions about health, suggestive symptoms of depression, and health habits and behaviors, Registro, São Paulo, Brazil, 2016 (N = 182)

Variables	Health habits and behaviors (AHBQ) [n(%)]					
	Nutrition		Sexual behavior		Traffic safety	
	HA	PR	HA	PR	HA	PR
Considers the current health						
Stable	56 (65.1)	30 (34.9)	49 (57.0)	37 (43.0)	50 (58.1)	36 (41.9)
Precarious	2 (14.3)	12 (85.7)	5 (38.5)	8 (61.5)	8 (57.1)	6 (42.9)
Need for improvement	42 (51.2)	40 (48.8)	42 (51.2)	40 (48.8)	40 (48.8)	42 (51.2)
	χ^2 (2) = 13.403 $p<0.001$*		χ^2 (2) = 1.753 p = 0.416		χ^2 (2) = 1.546 p = 0.462	
Caring for health reflects on health care						
No	2 (28.6)	5 (71.4)	7 (100.0)	---	4 (57.1)	3 (42.9)
Yes	98 (56.0)	77 (44.0)	89 (51.1)	85 (48.9)	94 (53.7)	81 (46.3)
	χ^2 (1) = 2.046 p = 0.153		χ^2 (1) = 6.447 p = 0.011*		χ^2 (1) = 0.032 p = 0.858	
Symptoms suggesting depression (PHQ-2)						
No	75 (57.7)	55 (42.3)	68 (52.7)	61 (47.3)	63 (48.5)	67 (51.5)
Yes	25 (48.1)	27 (51.9)	28 (53.8)	24 (46.2)	35 (67.3)	17 (32.7)
	χ^2 (1) = 1.387 p = 0.239		χ^2 (1) = 0.019 p = 0.890		χ^2 (1) = 5.308 p = 0.021*	

Note: Fisher's Exact Test. *$p \leq 0.05$. HA: healthy; PR: Precarious.
One student did not answer the questionnaire completely, so there are variables with 181 answered cases.
Source: authors.

Discussion

In the present study, the use of alcoholic beverages, illicit drugs and tobacco was associated with poor health behavior among nursing students. Working was associated with sedentary behaviors and single students showed poorer nutritional and sexual health behaviors when compared to those living with a partner. Furthermore, in male individuals, there was also greater precariousness in sexual health behaviors and in the consumption of drugs and similar when compared to women.

These results corroborate the evidence available in the international literature stating that socio-demographic factors such as age, income, gender, and/or working conditions tend to influence people's lifestyle (16, 17). Although, students know the importance of a "healthy lifestyle," the adoption of these behaviors represents a challenge in higher education as students are not always encouraged or have the conditions to promote self-care (3).

The precarious lifestyle adopted can increase the risks for the emergence of chronic non-communicable diseases, which can often be preventable (1). Moreover, the lasting behavior of an unhealthy lifestyle may endure in future generations (18). Studies looking at lifestyle among college students have seen a slight increase in recent decades (16, 17). However, strategies to analyze the numerous behaviors that cause health risks using standardized tools are still limited, which inhibits the potential for discussion and generalization of the results. In Brazil, few studies have evaluated the behavior and health habits adopted by nursing students (6).

In this research, although male students practice more physical activities than female students, the results show that in other areas, such as sexual behavior and use of drugs and the like, this care becomes precarious. Gender is one of the most important factors associated with health risk behaviors (19). Evidence suggests that women practice less physical activity than men (16, 17), which may be linked to the overload of other daily activities, resulting from the double workday and excessive personal attributions.

The insufficient level of physical activity reported by women increases the chances of being overweight (20) and represents a potential risk for physical and mental health problems (21). Since nursing is a profession with a predominant female presence, it is essential to seek strategies and intervention programs that favor the regular practice of physical activity.

As for male individuals, there is evidence that men are at greater risk than women regarding health behaviors (19) due to greater exposure to health risk situations linked to substance abuse, involvement in fights, and firearm use (19). Men are also more exposed to frequent sexual partner switching and unprotected sex (22). In the younger population, such behaviors are even more frequent. Therefore, the context surrounding behavior and inappropriate health habits should be analyzed considering the differences between genders. This can be explained by the multiple working hours of women (working outside home and assuming the role of mother, wife and performing household activities) as a contributing factor to reducing the time spent on physical activity (23), and by the male-related risk behaviors mentioned above.

It is noteworthy that the age group was also a determining factor for the type of behavior and health habits. Although younger students were more physically active, the same trend was not identified regarding nutritional aspects. On the other hand, the opposite is also true, that is, the older the students are, the better they care for their nutrition and the less they practice physical activity. Regardless of age, regular physical activity and the adoption of healthy eating habits should undoubtedly be permanent behaviors in the lives of men. It is significant that the adoption of these practices represents a protective factor against numerous non-communicable chronic diseases and premature death (16). However, a growing pattern of physical inactivity and poor diet since childhood is observed in the contemporary world, factors that represent a serious public health problem (21).

Single students and those who did not work showed greater adequacy in physical activity practice. On the other hand, those who lived with a partner showed more appropriate nutritional and sexual behavior. Entering higher education allows contact with new experiences and often the adoption of unhealthy routines. Although the practice of physical activity is common among young adults, this behavior tends to decline over the years (24).

Still related to the precariousness of health behaviors, the sexual experiences among college students stand out in our findings. Despite being inserted in a high level education environment, the behaviors and habits associated with avoiding the exchange of partners and the use of condoms in sexual relations are often unsatisfactory (25). These behaviors increase a student's vulnerability to sexually transmitted infections (STIs). Therefore, being in a stable relationship and having the support of a partner can increase protection against unfavorable health outcomes (17).

Another finding of this study refers to the consumption of psychoactive substances and the domains of the AHBQ. For alcohol consumption in different patterns and levels (last year, at-risk level, and binge drinking) the most affected domains were: physical activity, self-care for health, and the

environment. We further noted that approximately half of the students had a low commitment to self-care, which therefore supports the hypothesis that alcohol consumption in different patterns tends toward poor impairment in several health behaviors, with a progressive evolution between frequency/dose and poor self-care (26, 17). Improvement in health outcomes depends not only on changing one or two lifestyle habits but on changing multiple health behaviors simultaneously (27).

Additionally, it was identified that students who were active smokers or had a moderate or very high level of nicotine dependence (FTND) showed inferior performance in nutrition and self-care. It is estimated that low rates of fruit and vegetable consumption and low levels of engagement in physical activity, along with high levels of tobacco consumption, have been responsible for two-thirds of cardiovascular disease, cancer, and the mortality associated with other causes (28). Although knowledge about what constitutes a balanced diet is widespread in the nursing course (27), the difficulty of following a routine for healthy cooking and eating practices —associated with exposure to academic stress— and the growing trend of consuming quick snacks represent challenges to be overcome (29).

Students who had used illicit drugs experimentally showed impaired sexual behaviors. This finding, in particular, reinforces data available in the literature that point to the low commitment to health care by individuals using psychoactive substances (30). Furthermore, STIs and unintended pregnancy often result from the use of psychoactive substances, especially illicit ones (30, 31), as they interfere with judgment and decision-making. The association of both behaviors can result in damage to the student's health and undermine the efficient performance in the academic routine in the nursing course.

In addition to physical health, mental health also represents a key factor in the behaviors and health habits that will be adopted by students. In this work, negative perceptions about self-care and mental health were associated with poor health behaviors linked to the nutrition and traffic safety domains (AHBQ). The perception of current health status can be characterized as negative or positive. In this sense, factors such as stress, insufficient sleep, sedentary lifestyle, and unfavorable social environments can result in a negative perception toward health. On the other hand, the positive perception is associated with increased quality of life and general well-being of the individual (32). In the present study, more than half of the nursing students worked during the day, which can be seen as a risk factor for increased activity overload, reduced sleep, reduced physical activity, and, consequently, a negative health perception.

Although universities know that the academic calendar produces peaks in students' anguish and afflictions, no counterbalancing measures are systematically implemented to promote mental health care (16), especially in private institutions, for financial reasons. Therefore, it is necessary to rethink the assistance offered to students during the academic trajectory, since performing activities that promote physical and mental well-being can result in better academic and professional performance (33).

Brazilian universities house a large number of students, especially as a result of the huge expansion of the student body that has occurred in recent decades. Hence, public health monitoring systems and interventions should be part of the structure and services offered to students. With more than eight million students entering higher education in Brazil (34), universities should be healthy environments and spaces for the expansion of health promotion activities.

In this scenario, it is essential to rethink how students receive academic assistance during graduation since, as provided in the Nursing Curriculum Guidelines, one of the specific skills to be developed during training involves "caring for one's own physical and mental health and seeking their

well-being as a citizen and as a nurse" (35, p. 3). Planning activities aimed at promoting healthy lifestyles in nursing students is essential to reduce behavioral patterns that are unfavorable to quality of life and stimulate biopsychosocial well-being.

Considering this is cross-sectional research, the results of this study do not allow us to state a causal relationship. Therefore, future studies with different methodological designs, including prospective ones, are necessary. The use of different methodologies will enable the analysis of the relationship between healthy habits and behaviors and the use of psychoactive substances. In addition, our findings should be evaluated with caution because they involve a peculiar sample of nursing students from a Brazilian region, which may not reflect the reality of other students.

The strengths of this study include the use of a robust methodology and the analysis of the relationship between health behaviors and the use of psychoactive substances through the use of standardized tools (AUDIT-C, FTND, AHBQ, and PHQ-2) to measure the studied variables, which enables comparisons with other works. In the field of nursing science, the main contribution of the evidence produced by this study is the unprecedented detailing of the behavior and health habits of a previously unexplored population. Thus, the data may be useful in planning monitoring actions and interventions directed at the development of healthy lifestyles among nursing students, which contributes to the panoramic view involving different locations.

Conclusions

Nursing students reported appropriate health habits and behaviors for physical activity, nutrition, self-care, environment, sexual behavior, and safe transportation. However, the use of alcoholic beverages, illicit drugs and tobacco were also identified in the studied population, being associated with poor health habits.

The evidence from this study provides subsidies for planning interventions aimed at preventing the use of psychoactive substances and promoting a healthy lifestyle, which can be useful for reducing health problems in nursing students and future nursing professionals.

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