ORIGINAL ARTICLE

ALCOHOL, TOBACCO AND MARIJUANA USE AMONG HIGH SCHOOL STUDENTS AND ASSOCIATED FACTORS

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Highlights: (1) The most prevalent psychoactive substances used among the 546 high school students were: alcohol (16.8%), marijuana (7.3%) and tobacco (3.5%), whose risk factors for use were similar. Students in the 2nd and 3rd years were more likely to use marijuana, tobacco and alcohol compared to 1st year students. (2) The prevalence of alcohol use was higher among women, while marijuana and tobacco use was higher among male students. Students who said they had no religion were more likely to use these two legal substances (alcohol and tobacco). (3) In relation to the use of marijuana, the following were associated: studying at a school located in a territory of greater social vulnerability, attending the 2nd or 3rd year of high school, being single or having a steady partner and having children.

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ABSTRACT

Objective: To analyze the prevalence and factors associated with the use of alcohol, tobacco and marijuana among students of Public High Schools in the City of Sobral-CE. **Methods:** study carried out with 546 students from seven high schools in the city of Sobral-CE, using an online questionnaire with sociodemographic information and the Drug Use Screening Inventory. The results were analyzed using Chi-square and likelihood ratio tests. **Results:** alcohol had the highest prevalence (16.8%) followed by marijuana (7.3%) and tobacco (3.5%). Studying at a school in areas with greater social inequality and attending the 2nd or 3rd year were statistically significant for the use of these three substances. Not having a religion was also associated with the use of alcohol and tobacco. **Conclusions:** there is a need for more effective action by the government, with intersectoral actions, involving the school community and multidisciplinary health teams

Keywords: Students; Alcohol; Tobacco; Cannabis.

INTRODUCTION

The consumption of psychoactive substances is a worldwide phenomenon that transcends the category of "health problem". This use starts early, in adolescence, and intensifies with age[1]. The adolescent phase, experienced as a period of transition, makes adolescents vulnerable beings, as this is when they gain their autonomy and are open to assimilating new behavioral practices, being exposed to various risky situations. The use of psychoactive substances among adolescents is worrying, due to their vulnerability and psychological and emotional immaturity, and may be related to a greater risk of this experimentation becoming abuse and subsequent dependence[2].

According to the World Drug Report 2023 by the United Nations Office on Drugs and Crime (UNODC), more than 296 million people worldwide used drugs in 2021, an increase of 23% over the previous decade. In addition, the number of people suffering from drug use disorders has risen to 39.5 million, an increase of 45% in 10 years. Young people are the most vulnerable to drug use, and the most affected by drug use disorders in various parts of the world[3].

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In Brazil and worldwide, marijuana is the most widely consumed illicit substance, especially among adolescents, which is a cause for concern due to the harmful consequences of its chronic use, such as greater difficulties in concentration, learning, and memory, symptoms of depression and anxiety, decreased motivation, psychotic symptoms, schizophrenia, among other damages[4].

Data from the National School Health Survey (PeNSE) carried out in 2019 with adolescents from public and private schools, aged 13 to 17, indicate that: experimentation with alcoholic beverages was 63.3% (students from public and private schools). Of these, 34.6% had already had their first dose of alcohol at an early age, under the age of 14. About cigarettes, 22.6% of girls and boys had smoked at some point in their lives, especially in public schools (23.7%); 16.8% of schoolchildren had tried electronic cigarettes. 13.0% of schoolchildren had used some illicit drug at some point in their lives (marijuana, cocaine, crack, glue, loló, lança-perfume, ecstasy, oxy, etc.)[5].

The use of alcohol and other drugs should be treated as a problem concerning childhood, adolescence, and youth, to prevent the onset of use, as well as guaranteeing treatment, assistance, and care for those already using these substances. In this sense, in 2019 the National Drug Policy was approved, which, among its objectives, aims to raise awareness and protect Brazilian society from the social, economic, and public health damage represented by the use, misuse, and dependence on licit and illicit drugs[4].

In this context, it is necessary to detect the use of psychoactive substances early in adolescence, while also developing educational activities, addressing the main risk behaviors and, at the same time, acting to reduce and prevent the possible complications caused by the continuous use of these substances. To this end, a partnership between the health and education sectors is essential, as schools are a privileged space for promotion practices and the prevention of illnesses and diseases, and it is essential that health professionals value and expand these actions in schools to generate in young people a sense of self-care, including the issue of psychoactive substance use.

School is a privileged place for adolescents' personal development. Therefore, it is necessary to work on social issues, since school is the place where they spend most of their time, forming bonds, improving characteristics, socializing, and sharing their experiences [6]. On the other hand, studies indicate that students who are absent from school are more involved in substance use[7].

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The Health at School Program (Programa Saúde na Escola – PSE, in Portuguese) stands out. Its objective is to contribute to the comprehensive education of students through health promotion, prevention, and care actions, intending to tackle the vulnerabilities that compromise the full development of children, adolescents, and young people in the public school system. To this end, it brings together a series of relevant themes to be worked on in the Brazilian context, included in 12 priority actions, among which is the prevention of the use of alcohol, tobacco, and other drugs8.

The need to strengthen the prevention and treatment of substance abuse, including the abuse of narcotic drugs and the harmful use of alcohol, is one of the Sustainable Development Goals. This is established by the United Nations (UN) Global Compact, to be achieved by 2030 - the "2030 Agenda", as it has become known—involving 193 member countries, including Brazil9.

In addition, the World Health Organization (WHO) stresses the importance of collecting, analyzing, and disseminating data on this issue, especially to guide public health policies and facilitate the planning, implementation, and evaluation of interventions to reduce the burdens related to their use10.

Given the reality of the consumption of psychoactive substances among young people and the importance of action in the school context, considering alcohol and tobacco as the most consumed licit drugs and marijuana as the most experimented illicit drug, the following questions emerged: What is the prevalence of alcohol, tobacco and marijuana use among public high school students in a city in the interior of Ceará? How is the consumption of psychoactive substances presented concerning gender and age groups? What factors are associated with the consumption of psychoactive substances among schoolchildren?

To answer these questions, this study was carried out to identify the use of these main licit and illicit psychoactive substances among high school students and their associated factors. These findings will contribute to the planning and development of educational actions in health, encouraging changes in behavior among young people, and preventing or mitigating this use.

OBJECTIVE

To analyze the prevalence and factors associated with the use of alcohol, tobacco, and recreational marijuana among public high school students.

METHOD

Ethical aspects

The study project was approved by the Research Ethics Committee (CEP) of Vale do Acaraú State University under opinion No. 3.896.393. The study was guided by Resolution 466/12 of the National Health Council, which establishes the Guidelines and Regulatory Norms for Research Involving Human Beings.

For online data collection, a link was previously sent to the students and their guardians, containing the objectives of the study and the Terms of Free and Informed Consent (TCLE) and Informed Assent Form (for Adolescents) (IAF), with the contact telephone numbers of the researcher and the Research Ethics Committee. They were guaranteed confidentiality, anonymity, and the right to withdraw their consent at any time.

Study design, period, and location

This is a cross-sectional observational study, with a descriptive and analytical approach, on the prevalence and factors associated with the use of alcohol, tobacco, and marijuana among public high school students in the city of Sobral - CE. The design and conduct of this study followed the recommendations of the Reporting of Observational Studies in Epidemiology (STROBE).

Cross-sectional studies make it possible to produce information on the frequency or prevalence of certain disease situations or risk factors at a given time, as well as to make associations between the outcome variable and its covariates11.

The setting for the study was the municipality of Sobral (CE), in the semi-arid Sertão region of the Northeast of Brazil, with an estimated population of 210,711 inhabitants in 202012. There are nine state secondary schools in the municipality, but seven of them took part in the study. Data were collected between April and May 2020.

Population or sample, inclusion, and exclusion criteria

The population was all 3,446 students enrolled in 2020 at the participating schools. The sample was calculated using the formula for cross-sectional studies with finite populations. The percentage of 50% who use some kind of drug was considered, with 95% confidence and an absolute sampling error of 4.3%. An additional 20% was added for possible loss of information,

leaving a sample of 546, which was stratified according to the population of the participating schools.

The inclusion criteria were being duly enrolled and participating in school activities at the participating high schools. Students with a disability or dysfunction that made it impossible for them to complete the online questionnaire were excluded.

Study protocol

To carry out the study, the project was initially presented to the management of the State High Schools in the municipality of Sobral-CE. After their approval, the principals of each of the nine state high schools were contacted by email and/or telephone and/or WhatsApp application, presenting the study and its objectives, inviting them to take part, and agreeing to carry out the study.

Then, after the principals had agreed, the link to the ICF/IAF and the data collection questionnaire were sent via Google Forms so that they could be sent to the teachers, students, and their guardians. This way, once they were aware of the study, its objectives, and the data collection procedures, they would decide whether to take part.

As a result of the novel coronavirus (SARs-COV-2) pandemic, the students were taking remote classes. Therefore, data were collected virtually using a Google Forms questionnaire with sociodemographic information and the Brazilian version of the DUSI (Drug Use Screening Inventory) questionnaire[13]. This consists of a table that investigates the frequency of alcohol and/or drug use in the last month, followed by 15 questions that address problems associated with substance use: desire, compulsion, or craving; symptoms of tolerance and/or withdrawal; or risk behaviors such as involvement in accidents under the effects of alcohol or other drugs (area 1 of the DUSI - substances use). DUSI questions are answered with "YES" or "No,", with yes answers equating to the presence of problems.

Analysis of results and statistics

The results were processed in SPSS 20.0, license number 10101131007. The chi-square and likelihood ratio tests were used to verify the existence of an association between the consumption of psychoactive substances and the independent variables. The strength of the associations was analyzed using the odds ratio (OR). Inferential analyses with $p < 0.05$ were considered statistically significant.

RESULTS

The following tables show the distribution of the number of students according to their use of the three psychoactive substances: alcohol, tobacco, and cannabis, as well as the sociodemographic variables. Table 1 shows the distribution of students according to alcohol use and sociodemographic variables.

Table 1 - Distribution of the number of students according to alcohol use and sociodemographic variables, Sobral–CE, Brazil. 2020.

	Alcohol use in the last 30 days						
	Yes		No				
	N	%	N	%	OR	CI95%	*P*
Age group							
17 – 22	45	21.8	161	78.2	1.74	1.1 - 2.74	**0.015**
14 – 16	47	13.8	293	86.2	1		
School							
A	28	25.2	83	74.8	2.18	1.17 - 4.09	**0.013**
G	15	17.2	72	82.8	1.35	0.66 - 2.78	0.415
B	9	16.1	47	83.9	1.24	0.53 - 2.8	0.619
C	14	23.3	46	76.7	1.97	0.92 - 4.19	0.074
E	21	13.4	136	86.6	1		
Grade							
2nd grade	24	14.5	142	85.5	1.13	0.61 - 2.09	0.694
3rd grade	45	22.2	158	77.8	1.91	1.10 - 3.30	**0.02**
1st grade	23	13.0	154	87.0	1		
Gender							
Female	63	18.5	277	81.5	1.39	0.86 - 2.24	0.178
Male	29	14.1	177	85.9	1		
Color							
Brown	62	17.5	293	82.5	1.19	0.59 - 2.39	0.62
White	16	16.0	84	84.0	1.07	0.47 - 2.47	0.868
Black	11	15.1	62	84.9	1		
Income*							

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0.6–1.0 MW	38	16.6	191	83.4	1.22	0. 67 - 2.22	0.504
> 1.0 MW	35	19.3	146	80.7	1.48	0.80 - 2.71	0.208
Up to 0.5 MW	19	14.0	117	86.0	1		
Has religion							
No	28	28.0	72	72.0	2.32	1.39 - 3.87	**0.001**
Yes	64	14.3	382	85.7	1		
Religion							
Catholic	52	15.8	278	84.2	1.54	0.72 - 3.26	0.259
Other	3	9.1	30	90.9	0.82	0.21 - 3.25	0.78
Evangelical	9	10.8	74	89.2	1		
Who do they live with							
Father or mother and siblings	28	16.0	147	84.0	0.98	0.58 - 1.65	0.95
With relatives	17	21.0	64	79.0	1.37	0.73 - 2.57	0.322
Other people	4	16.0	21	84.0	0.98	0.32 - 3.00	0.977
W/Father and siblings	43	16.2	222	83.8	1		
Where they live							
Urban Area	87	17.2	418	82.8	1.49	0.57 - 3.93	0.408
Rural Area	5	12.2	36	87.8	1		
Marital status							
Single With partner	37	19.2	156	80.8	1.38	0.87 - 2.21	0.173
Married/Uni	6	33.3	12	66.7	2.92	1.10 - 8.14	**0.033**
Without partner	49	14.6	286	85.4	1		
Sexual Orientation							

	N	%	N	%	OR	CI	P
Straight	80	17.1	387	82.9	1.19	0.57 - 2.52	0.641
Homo/Other	3	16.7	15	83.3	1		
Bisexual	9	14.8	52	85.2	1.16	0.28 - 4.82	0.843
Children							
Yes	5	20.8	19	79.2	1.32	0.48 - 3.62	0.594
No	87	16.7	435	83.3	1		

Chi-square test; *Minimum Wage (MW): R$ 1045.00

Table 1 shows that the prevalence of alcohol use among high school students was 16.8%. Students aged between 17 and 22 were 1.7 times more likely to use alcohol than those aged between 14 and 16 (OR: 1.74; CI: 1.11-2.74; p= 0.015). Students at school A were 2.2 times more likely to use alcohol compared to school E (OR: 2.18; CI: 1.16-4.09; p= 0.013). Third-graders are 1.91 times more likely to use alcohol compared to first-graders (OR: 1.91; CI: 1.10-3.30; p= 0.02); students with no religion are 2.3 times more likely to use alcohol compared to those with religion (OR: 2.32; CI: 1.39-3.86; p= 0.001); married people are 2.9 times more likely to use alcohol compared to single people without a partner (OR: 2.91; CI: 1.04-8.14; p= 0.033).

Concerning tobacco use in the last 30 days, Table 2 shows the number of students who have used this substance and the factors associated with its use.

Table 2 - Distribution of the number of students, according to tobacco use and sociodemographic variables, Sobral–CE, Brazil. 2020.

Tobacco use in the last 30 days							
	Yes		**No**				
	N	**%**	**N**	**%**	**OR**	**CI95%**	***P***
Age group							
17 – 22	7	3.4	199	96.6	0.96	0.37-2.48	0.935
14 – 16	12	3.5	328	96.5	1		
School							
A	12	10.8	99	89.2	6.22	1.71-22.60	**0.002**
G	1	1.1	86	98.9	0.59	0.06-5.83	0.654
B	0	0.0	56	100.0	1		0.298
C	3	5.0	57	95.0	2.70	0.53-13.77	0.214

E	3	1.9	154	98.1	1		
Grade							
2nd grade	12	7.2	154	92.8	4.52	1.25-16.31	**0.012**
3rd grade	4	2.0	199	98.0	1.17	0.26-5.28	0.842
1st grade	3	1.7	174	98.3	1		
Gender							
Female	8	2.4	332	97.6	0.43	0.17-1.08	0.065
Male	11	5.3	195	94.7	1		
Color							
Brown	12	3.4	343	96.6	0.82	0.22-2.97	0.758
White	3	3.0	97	97.0	0.72	0.14-3.68	0.694
Black	3	4.1	70	95.9	1		
Income*							
0.6–1.0 MW	8	3.5	221	96.5	4.89	0.6-39.50	0.100
> 1.0 MW	10	5.5	171	94.5	7.89	0.99-62.44	**0.021**
Up to 0.5 MW	1	0.7	135	99.3	1		
Has religion							
No	7	7.0	93	93.0	2.72	1.1-7.10	**0.034**
Yes	12	2.7	434	97.3	1		
Religion							
Catholic	8	2.4	322	97.6	0.49	0.14-1.67	0.246
Evangelical	4	4.8	79	95.2	1		
Who do they live with							
Father or mother and siblings	3	1.7	172	98.3	0.40	0.11-1.46	0.154
With relatives	4	4.9	77	95.1	1.2	0.37-3.87	0.761
Other people	1	4.0	24	96.0	0.96	0.11-7.77	0.971

W/Father and siblings	11	4.2	254	95.8	1		
Where they live							
Urban Area	18	3.6	487	96.4	1.48	0.19-11.36	0.705
Rural Area	1	2.4	40	97.6	1		
Marital status							
Single With partner	5	2.6	188	87.4	0.61	0.22-1.72	0.345
Married/Uni	0	0.0	18	100.0	1.04	1.02-1.06	0.376
Without partner	14	4.2	321	95.8	1		
Sexual Orientation							
Straight	17	3.6	450	96.4	1.11	0.25-4.94	0.887
Homo/Other	0	0.0	18	100.0	1		0.436
Bisexual	2	3.3	59	96.7	1		
Children							
Yes	1	4.2	23	95.8	1.22	0.16-9.52	0.851
No	18	3.4	504	96.6	1		

Likelihood ratio test. *Minimum Wage (MW): R$ 1045.00

The prevalence of tobacco use was 3.5% and was associated with four variables: school, grade, religion, and income. School A was 6.2 times more likely to use tobacco compared to school E (OR: 6.22; CI 1.71-22.61; p= 0.002); 2nd graders were 4.5 times more likely to use tobacco compared to 1st graders (OR: 4.52; CI: 1.25-16.31; p= 0.012); students who declared themselves to have no religion were 2.7 times more likely to use tobacco compared to those with a religion (OR: 2.72; CI: 1.04-7.10; p= 0.034), and those with an income of more than one minimum wage were 7.8 times more likely to use tobacco than those with an income of half a minimum wage (OR: 7.89; CI: 0.99-62.44; p= 0.021).

Regarding marijuana use in the last 30 days, Table 3 shows the number of students who have used this substance and the factors associated with its use.

Table 3 - Distribution of the number of students, according to marijuana use and sociodemographic variables, Sobral–CE, Brazil. 2020.

**MARIJUANA use in the last 30 days**

	Yes		**No**				
	N	**%**	**N**	**%**	**OR**	**CI95%**	**P**
Age group							
17 – 22	20	9.7	186	90.3	1.72	0.90-3.28	0.096
14 – 16	20	5.9	320	94.1			
School							
A	15	13.5	96	36.5	2.91	1.19-7.13	**0.015**
G	5	5.7	82	94.3	1.14	0.36-3.58	0.828
B	6	10.7	50	89.3	2.23	0.74-6.75	0.145
C	5	8.3	55	91.7	1.69	0.53-5.39	0.369
E	8	5.1	149	94.9			
Grade							
2nd grade	20	12.0	146	88.0	5.92	1.98-17.72	**0.001**
3st grade	16	7.9	187	92.1	3.70	1.21-11.28	**0.014**
1st grade	4	2.3	173	97.7			
Gender							
Female	22	6.5	318	93.5	0.72	0.38-1.38	0.324
Male	18	8.7	188	91.3			
Color							
Brown	25	7.0	330	93.0	0.62	0.27-1.42	0.253
White	6	6.0	94	94.0	0.52	0.17-1.56	0.238
Black	8	11.0	65	89.0			
Income*							
0.6–1.0 MW	14	6.1	215	93.9	1.04	0.42-2.55	0.929
> 1.0 MW	18	9.9	163	90.1	1.77	0.74-4.19	0.192
Up to 0.5 MW	8	5.9	128	94.1			
Has religion							

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No	6	6.0	94	94.0	0.77	0.32-1.89	0.573
Yes	34	7.6	412	92.4			
Religion							
Catholic	27	8.2	303	91.8	1.76	0.59-5.18	0.299
Other	3	9.1	30	90.9	1.97	0.42-9.35	0.383[1]
Evangelical	4	4.8	79	95.2			
Who do they live with							
Father or mother and siblings	10	5.7	165	94.3	0.83	0.37-1.85	0.65
With relatives	10	12.3	71	87.7	1.93	0.85-4.37	0.109
Other people	2	8.0	23	92.0	1.19	0.26-5.47	0.820[1]
W/Father and siblings	18	6.8	247	93.2			
Where they live							
Urban Area	39	7.7	466	92.3	3.35	0.45-25.01	0.212
Rural Area	1	2.4	40	97.6			
Marital status							
Single With partner	20	10.4	173	89.6	2.04	1.1-3.95	**0.033**
Married/Uni	2	11.1	16	88.9	2.20	0.47-10.32	0.305[1]
Without partner	18	5.4	317	94.6			
Sexual Orientation							
Straight	35	7.5	432	92.5	0.91	0.34-2.41	0.845
Homo/Other	-	-	18	100.0	1.09	1.01-1.17	0.209[1]
Bisexual	5	8.2	56	91.8			
Children							
Yes	5	20.8	19	79.2	3.66	1.290-10.392	**0.009**
No	35	6.7	487	93.3	1		

Chi-square test; 1Likelihood ratio test; *Minimum wage (MW): R$ 1045.00

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The prevalence of marijuana use among students was 7.3%. School A was 2.9 times more likely to use marijuana than school E (OR: 2.91; CI: 1.19-7.13; p= 0.015); 2nd graders were 5.9 times more likely than 1st graders (OR: 5.92; CI: 1.98-17.72; p= 0.001); and 3rd graders were 3.7 times more likely than 1st graders (OR: 3.70; CI: 1.21-11.28; p= 0.014). Single students with a partner were 2.04 times more likely to use marijuana compared to those without partners (OR: 2.04; CI: 1.05-3.95; p= 0.033). Students who had children were 3.66 times more likely to use marijuana than those who didn't (OR: 3.66; CI: 1.29-10.39; p: 0.009).

DISCUSSION

Among the three psychoactive substances analyzed in terms of use in the last 30 days among high school students in Sobral-CE, alcohol had the highest prevalence (16.8%), followed by marijuana (7.3%) and tobacco (3.5%). These results were lower than those of PeNSE in 2019[5]. A study of 643 adolescents in public schools in the city of Recife, state of Pernambuco, Brazil, found a significant prevalence of alcohol use (16.5%), tobacco use (15.7%), and illicit drug use (6.8%)[14].

Regarding the use of marijuana, a study carried out in Viña Del Mar, Chile, with 268 high school students, found that 52% of the participants admitted to having used marijuana at some point in their lives[15]. There is an association between marijuana use and school problems, with an average age of first experimentation of 15.7 years[16].

The prevalence of alcohol use was higher among females, while marijuana and tobacco use was higher among males. However, these differences were not statistically significant. These results are in line with other studies, in which female adolescents stood out in terms of alcohol use[17], and which found no statistically significant differences between the sexes in terms of risky alcohol consumption[18].

For the use of the three psychoactive substances: alcohol, tobacco, and marijuana, the sociodemographic variables grade and school showed statistically significant associations. Students in the 2nd and 3rd grades were more likely to use marijuana, tobacco, and alcohol than those in the 1st grade. These findings point to the development of health education activities aimed at preventing the use of psychoactive substances from the earliest stages of high school but focusing on students in the more advanced grades to reduce this use.

Among the seven regular high schools located in the city of Sobral-CE participating in the study, school A, located in an area of high social vulnerability, was the most likely to use

alcohol, tobacco, and marijuana. This highlights the importance of comprehensive, intersectoral public policies, especially on the outskirts of cities, where there are greater social inequalities, contributing to the use of psychoactive substances among young people.

Age was only statistically associated with alcohol use, as students aged between 17 and 22 were more likely to use this psychoactive substance. There has been a trend since 2012, which confirms the delay in the age of experimentation with alcoholic beverages and the percentage of risky consumers[18]. However, PeNSE (2019)[5] showed that 34.6% of adolescents aged 13 to 17 had already had their first dose of alcohol at an early age, under the age of 14. These findings reinforce the importance of actions to prevent and/or reduce the use of psychoactive substances among school adolescents, from the earliest grades to the most advanced.

Regarding family income, only tobacco use was associated with having an income higher than the minimum wage. A cross-sectional study based on data from the National Health Survey (PNS) and carried out with young Brazilians aged 18 to 24 indicated that living in states with better socioeconomic conditions, according to the Municipal Human Development Index (MHDI), is associated with a greater likelihood of young people smoking compared to those who live in other states.[19]

Marital status was associated with the use of two substances: alcohol and marijuana, but in different ways. For alcohol use, students who were married or in a stable union were more likely to use alcohol. For marijuana, single students who had a steady partner, and had a child were more likely to use this illicit substance.

The use of alcohol and tobacco was also associated with religion. Students who said they had no religion were more likely to use these two legal substances. A study carried out in Mexico found that religiosity is a protective factor for substance use since the cultural and social norms adopted by everyone can place them in a situation of protection or risk for substance use, such as cigarettes[20]. This highlights the protective role of the religion variable for the risk of using these psychoactive substances, as a study has already shown that friendships based on religion, as well as sports/culture, seem to have a protective effect against the use of illicit drugs[21].

The study is relevant because its results helped to identify the psychoactive substances most consumed by young schoolchildren and the factors associated with consumption. According to the National Drug Policy Plan 2022-2027, the consumption of illicit drugs and

the abusive or harmful consumption of alcohol represents a problem that has several consequences, including reduced school performance and increased school dropout rates; mental suffering and disorders; and weakened family and community ties, generating a negative impact on the country's economic and social development[22].

Thus, based on this knowledge, actions can be planned to prevent and/or mitigate the use of the three most used psychoactive substances among high school students (alcohol, tobacco, and marijuana) and, consequently, the problems resulting from this use.

The results point to the need for more effective action by the public authorities, with actions planned and carried out in an intersectoral way, involving the entire school community and multi-professional teams in the areas of health, education, social assistance, sport, and culture. The School Health Program (PSE, in Portuguese) was designed to strengthen the integration of public policies, especially health and education. It is an intersectoral and inter-sectoral articulation strategy capable of fostering the student's full development through health promotion actions and the prevention of diseases and health problems, as well as articulating the student's enjoyment of public policy rights[8].

Actions are needed to involve young people in sports, culture, and leisure activities, as well as encourage professional development and, especially, carrying out health education actions. These should focus on schools located in areas of greater social vulnerability, in the intermediate and final grades of secondary school, where older students are concentrated, as in this study they were the ones most at risk of using psychoactive substances.

Health education activities by the multi-professional team are essential, especially in Primary Health Care, as it is closer to the community, with the PSE. These should be aimed at preventing the use of psychoactive substances by schoolchildren, involving teachers, and using educational technologies that encourage dialogue, the sharing of experiences, reflection on reality, and changes in behavior. It is also important to strengthen young people's resilience, ability to say no, solidarity, belonging, ability to listen, autonomy, creativity, respect for differences and values[23].

Study limitations

It is important to note that the results obtained in this study are restricted to the sample of students regularly enrolled in regular high schools located in the municipality of Sobral, in the interior of Ceará, Brazil. Therefore, they should not be generalized to all young people, due

to the divergent Brazilian contexts and because a significant fraction of this population is no longer part of the school environment.

Limitations deserve to be pointed out, because when it comes to determining the consumption of psychoactive substances in educational institutions, students who have more serious involvement with drugs may no longer attend class or be systematically absent, thus not being captured by the study. Another situation is the existence of possible information bias, since some students may have omitted their consumption of psychoactive substances, even though they were guaranteed anonymity, and the data was collected online.

CONCLUSIONS

The most prevalent psychoactive substances used by high school students were alcohol, marijuana, and tobacco, with similar risk factors for use. Regarding alcohol use, the associated factors were studying at a school located in an area of greater social vulnerability; being aged between 17 and 22; having no religion; being in the third year of school; and being married or in a stable union. The factors associated with tobacco use were studying at a school located in a territory of greater social vulnerability; being in the 2nd grade; having no religion; and having an income of more than the minimum wage. As for marijuana use, the following were associated: studying at a school located in a territory of greater social vulnerability; being in the 2nd or 3rd grade; being single or having a steady partner; and having children.

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