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RESEARCH

CONSUMPTION OF AND EXPOSURE TO ALCOHOLIC BEVERAGES AMONG BRAZILIAN ADOLESCENTS: DIVERSE EVIDENCE FROM THE 2015 AND 2019 NATIONAL SCHOOL HEALTH SURVEYS

CONSUMO E EXPOSIÇÃO A BEBIDAS ALCOÓLICAS ENTRE ADOLESCENTES BRASILEIROS: EVIDÊNCIAS DAS PESQUISAS NACIONAIS DE SAÚDE DO ESCOLAR DE 2015 E 2019

CONSUMO Y EXPOSICIÓN A BEBIDAS ALCOHÓLICAS ENTRE LOS ADOLESCENTES BRASILEÑOS: EVIDENCIA DE LAS ENCUESTAS NACIONALES DE SALUD ESCOLAR DE 2015 Y 2019

Deborah Carvalho Malta[1]
Elton Junio Sady Prates[2]
Alan Cristian Marinho Ferreira[1]
Paula Carvalho de Freitas[3]
Patrícia Pereira Vasconcelos de Oliveira[4]
Crizian Saar Gomes[5]
Ísis Eloah Machado[6]
Eduardo Luiz Gonçalves Rios-Neto[7]

[1]Universidade Federal de Minas Gerais - UFMG, Escola de Enfermagem, Departamento de Enfermagem Materno Infantil e Saúde Pública. Belo Horizonte, MG - Brazil.
[2]Universidade Federal de Minas Gerais - UFMG, Escola de Enfermagem - EE. Belo Horizonte, MG - Brazil.
[3]Universidade Nova de Lisboa - UNL, Instituto de Higiene e Medicina Tropical - IHMT. Lisboa - Portugal.
[4]University College Dublin - UCD. Dublin - Ireland.
[5]Universidade Federal de Minas Gerais - UFMG, Programa de Pós Graduação em Saúde Pública da Faculdade de Medicina. Belo Horizonte, MG - Brazil.
[6]Universidade Federal de Ouro Preto - UFOP, Departamento de Medicina de Família, Saúde Mental e Coletiva. Belo Horizonte, MG - Brazil.
[7]Universidade Federal de Minas Gerais - UFMG, Faculdade de Ciências Econômicas - FACE, Centro de Desenvolvimento e Planejamento Regional - CEDEPLAR. Belo Horizonte, MG - Brazil.

Corresponding author: Deborah Carvalho Malta
E-mail: dcmalta@uol.com.br

Authors' Contributions:
Conceptualization: Deborah Carvalho Malta, Elton Junio Sady Prates, Alan Cristian Marinho Ferreira; ***Data Collection:*** Eduardo Luiz Gonçalves Rios-Neto; ***Funding Acquisition:*** Deborah Carvalho Malta; ***Investigation:*** Deborah Carvalho Malta, Eduardo Luiz Gonçalves Rios-Neto, Patrícia Pereira Vasconcelos de Oliveira, Paula Carvalho de Freitas; ***Methodology:*** Deborah Carvalho Malta, Elton Junio Sady Prates, Paula Carvalho de Freitas, Crizian Saar Gomes, Eduardo Luiz Gonçalves Rios-Neto; ***Project Management:*** Deborah Carvalho Malta; ***Resources Management:*** Deborah Carvalho Malta; ***Software:*** Eduardo Luiz Gonçalves Rios-Neto; ***Statistical Analysis:*** Deborah Carvalho Malta, Elton Junio Sady Prates; ***Supervision:*** Deborah Carvalho Malta; ***Validation:*** Deborah Carvalho Malta, Elton Junio Sady Prates, Alan Cristian Marinho Ferreira, Patrícia Pereira Vasconcelos de Oliveira, Paula Carvalho de Freitas, Crizian Saar Gomes, Ísis Eloah Machado, Eduardo Luiz Gonçalves Rios-Neto; ***Visualization:*** Deborah Carvalho Malta, Elton Junio Sady Prates; ***Writing - Original Draft Preparation:*** Deborah Carvalho Malta; ***Writing - Review and Editing:*** Deborah Carvalho Malta, Elton Junio Sady Prates, Alan Cristian Marinho Ferreira, Patrícia Pereira Vasconcelos de Oliveira, Paula Carvalho de Freitas, Crizian Saar Gomes, Ísis Eloah Machado, Eduardo Luiz Gonçalves Rios-Neto.

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ABSTRACT

Objective: to analyze the indicators regarding consumption of and exposure to alcoholic beverages among Brazilian schoolchildren in 2018 and compare them to those from 2015. **Method:** a cross-sectional study conducted with data from the 2015 and 2019 National School Health Survey (Pesquisa Nacional de Saúde do Escolar, PeNSE). In 2019, the indicators referring to consumption of and exposure to alcoholic beverages were analyzed, stratified by gender, age group, administrative system, Federation Unit, and geographical region. The prevalence values and their respective 95 confidence intervals (95% CIs) were estimated. **Results:** there was an increase in trying alcoholic beverages before the age of 13 (from 30.6% in 2015 to 34.6% in 2019); being drunk in their lifetime (from 27.2% in 2015 to 47.0% in 2019) and having problems with friends due to alcohol consumption (from 9.3% in 2015 to 15.7% in 2019). All the indicators were more prevalent among the girls, except for binge drinking and drunkenness episodes, which presented no differences between the genders and were also higher among older students Episodes of drunkenness and having friends who drink alcohol were more prevalent among students from public schools, while consumption of alcoholic beverages by parents and having had problems with their families or friends due to alcohol consumption were higher in students from private schools. **Conclusion:** high prevalence of experimentation, consumption and exposure to alcoholic beverages was evidenced, showing that a large number of Brazilian adolescents are exposed to an avoidable burden of morbidity and mortality resulting from consumption of and exposure to alcohol.

Keywords: Underage Drinking; Adolescent; Health Surveys; Cross-Sectional Studies; Brazil.

RESUMO

Objetivo: *analisar os indicadores de consumo e exposição a bebidas alcoólicas entre escolares brasileiros em 2019 e compará-los aos de 2015.* ***Método:*** *estudo transversal com dados da Pesquisa Nacional de Saúde do Escolar (PeNSE), realizadas em 2015 e 2019. Em 2019, analisaram-se os indicadores referentes ao consumo e à exposição a bebidas alcoólicas, estratificadas por sexo, faixa etária, dependência administrativa, unidades da federação e região geográfica. Estimaram-se as prevalências e os respectivos intervalos de 95% de confiança (IC 95%).* ***Resultados:*** *houve aumento na experimentação de bebidas alcoólicas antes de 13 anos (30,6% em 2015 para 34,6% em 2019); sofrer embriaguez na vida (27,2% em 2015 para 47,0% em 2019) e ter problemas com amigos devido ao consumo de bebidas alcóolicas (9,3% em 2015 para 15,7% em 2019). Todos os indicadores foram mais prevalentes entre meninas, exceto beber em binge e episódios de embriagues, que não tiveram diferenças entre os sexos, bem como foram mais elevadas entre estudantes mais velhos. Os episódios de embriaguez e ter amigos que ingerem bebida alcoólica foram mais prevalentes entre escolares de escolas públicas, enquanto o consumo de bebidas alcoólicas pelos pais e ter tido problemas com suas famílias ou amigos devido ao consumo de bebidas alcoólicas foram mais elevados em estudantes de escolas privadas.* ***Conclusão:*** *evidenciaram-se elevadas prevalências de experimentação, consumo e exposição a bebidas alcoólicas, mostrando que grande parcela dos adolescentes brasileiros se encontra exposta a uma carga evitável de morbimortalidade decorrente do consumo e exposição ao álcool.*

Palavras-chave: *Consumo de Álcool por Menores; Adolescente; Inquéritos Epidemiológicos; Estudos Transversais; Brasil.*

RESUMEN

Objetivo: *analizar los indicadores de consumo y exposición a bebidas alcohólicas entre los estudiantes brasileños en 2019 y compararlos con los de 2015.* ***Método:*** *estudio transversal con datos de la Encuesta Nacional de Salud Escolar (PeNSE), realizada en 2015 y 2019. En 2019 se analizaron los indicadores referidos al consumo y exposición a bebidas alcohólicas estratificados por sexo, grupo de edad, dependencia administrativa, unidades federativas y región geográfica. Se estimó la prevalencia y los respectivos intervalos de confianza del 95% (IC 95%).* ***Resultados:*** *aumenta la experimentación con bebidas alcohólicas antes de los 13 años (30,6% en 2015 a 34,6% en 2019); sufrir borracheras en la vida (27,2% en 2015 a 47,0% en 2019) y tener problemas con los amigos por el consumo de alcohol (9,3% en 2015 a 15,7% en 2019). Todos los indicadores eran más frecuentes entre las chicas, excepto el consumo compulsivo de alcohol y los episodios de embriaguez, que no presentaban diferencias de género, además de ser más elevados entre los estudiantes de mayor edad. Los episodios de consumo de alcohol y el hecho de tener amigos que beben bebidas alcohólicas fueron más frecuentes entre los estudiantes de la escuela pública, mientras que el consumo de alcohol por parte de los padres y el hecho de haber tenido problemas con sus familias o amigos debido al consumo de alcohol fueron mayores en los estudiantes de las escuelas privadas.* ***Conclusión:*** *se evidenció una alta prevalencia de experimentación, consumo y exposición a bebidas alcohólicas, mostrando que una gran parte de los adolescentes brasileños está expuesta a una carga evitable de morbilidad y mortalidad resultante del consumo y exposición al alcohol.*

Palabras clave: *Consumo de Alcohol en Menores; Adolescente; Encuestas Epidemiológicas; Estudios Transversales; Brasil.*

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INTRODUCTION

The World Health Organization (WHO) defines adolescence as the transitional phase of life between childhood and adulthood, from 10 to 19 years old, being an important moment for the onset of habits that contribute to achieving good health.[1] It is also estimated that this population group corresponds to one sixth of the global population (approximately 1.2 billion people), and there are projections that this number will increase by 2050, mainly in low- and middle-income countries, where 90% of young people live.[1]

Adolescence is permeated by discoveries, and especially by experimentation with psychoactive substances such as alcohol, tobacco and illicit drugs. However, it is known that early exposure to psychoactive substances exposes adolescents to several preventable harms — not only in adulthood, but also in adolescence, such as dependence, accidents and violence, contributing to an increase in premature deaths and a reduction in life expectancy.[2,3] In addition, considering that adolescence is a crucial neurodevelopment period, consumption of alcoholic beverages in this phase can compromise maturation of the Central Nervous System, which may lead to a reduction in the hippocampus volume and to countless behavioral changes, including learning, psychomotor speed, attention, executive functioning and impulsiveness.[4]

Worldwide, it is estimated that more than a quarter of the adolescents aged from 15 to 19 years old (155 million) drink alcoholic beverages.[2] The Health Behavior in School-aged Children (HBSC) study showed that 59% of 15-year-olds had already consumed alcoholic beverages, and that 37% had drunk alcoholic beverages in the last 30 days. In addition to showing social inequalities, the study also pointed to higher prevalence among male adolescents.[5] In Brazil, editions of the National School Health Survey (PeNSE) revealed a downward trend in the prevalence of alcohol use among 9th grade students in the 30 days prior to the survey, but at a still high level, with 27.3% in 2009, 26.1% in 2012 and 23.8% in 2015.[6]

In Brazil there are guidelines to fight against the consumption of alcoholic beverages whose goal is to achieve a 10% reduction of abusive consumption among adults by 2030. This goal is also present in the WHO Plan to Combat Chronic Non-Communicable Diseases (CNCDs) (2015-2025) and in the United Nations (UN) 2030 Agenda for Sustainable Development.[7,8] In this sense, it becomes essential to monitor the indicators of consumption and exposure to alcoholic beverages among adolescents, in order to verify whether the goals are being achieved and to support public policies aimed at this population segment. This is important due to the potential repercussions of this behavior in adulthood, which may compromise the national and international agreed upon goals.

Given the above, the objective of this study was to analyze the indicators regarding consumption of and exposure to alcoholic beverages among Brazilian schoolchildren in 2018 and compare them to those from 2015. These findings may contribute to expanding the understanding about this phenomenon among young people in the country, as well as to advancing in terms of coping with alcohol consumption among adolescents.

METHODS

Study design

A cross-sectional study conducted with data from the 2015 and 2019 PeNSE surveys.

Context

PeNSE is part of the Surveillance of Risk and Protection Factors for Chronic Diseases in Brazil. Since 2009, it has been carried out every three years by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, IBGE) in partnership with the Ministry of Health (*Ministério da Saúde*, MS), making it possible to measure the risk and protection factors for adolescents' health and to monitor the progress of national and global agendas for coping with Non-Communicable Diseases and Health Problems in the country.[9]

Sampling and data collection procedure

PeNSE includes schoolchildren aged from 13 to 17 years old enrolled in Brazilian public and private schools. The sampling process uses the registration of public and public schools at the Anísio Teiwiera National Institute of Research and Studies (*Instituto Nacional de Estudos e Pesquisas*, INEP). The sampling plan is by clustering in two stages: the schools correspond to the first stage and the classes of enrolled students, to the second. In the classes selected, all students were invited to answer the survey questionnaire, whose inclusion criterion was being present on the survey data collection day; in turn, the exclusion criterion was not accepting to answer the questionnaire.[10,11]

In 2015, two different sampling plans were used, which respectively include students attending 9th grade of Elementary School (Sample I) and students aged from 13 to 17, attending 6th to 9th grade of Elementary School

(formerly 5th to 8th grades) and 1st to 3rd year of High School (Sample II).[12] In 2019, the IBGE used a single sample of students aged from 13 to 17 years old attending both public and private schools, for the following geographic strata: Brazil, Major Regions, Federation Units, municipalities of the capital cities and *Distrito Federal*.[13]

In this study, for comparability purposes between both editions, the data referring to Sample 2 from 2015 were used, as it is similar to the one employed in 2019. In Sample 2 from 2015, data from 317 schools and 753 classes were collected, with 16,556 responding schoolchildren and analyzing 10,926 valid questionnaires. In 2019, 4,242 schools and 6,612 classes were evaluated, with 159,245 and 125,123 valid and analyzed questionnaires, respectively. Considering the students enrolled but that did not answer the survey, the sample loss corresponded to approximately 2.4% in 2015 and to 15.4% in 2019.

PeNSE employed sampling weights considering the weights corresponding to the schools, the classes and the students. These weights were adjusted based on the data from the 2019 School Census.[13] More information about the PeNSE methodology and sample is available in other publications.[9-11]

In both editions of PeNSE, the participants answered the structured and self-applied questionnaire using smartphones, covering information on socioeconomic status, family context, experimentation and use of cigarettes, alcohol and other drugs, violence, safety, accidents and other life conditions of these adolescents attending school.

Variables

Table 1 presents the indicators (and their descriptions) included in the PeNSE questionnaire, more specifically in relation to Topic 6, "Alcoholic Beverages", comparable in 2015 and 2019 and which were analyzed in this study.

The questions about the topic were preceded by the following instruction: *"The next questions refer to your and your close people's consumption of alcoholic beverages. In order to answer them, consider that ONE SHOT corresponds to: - a can or long-neck bottle of beer or ice-vodka or - a glass of draft beer or - a glass of wine or - a shot of cachaça/pinga, vodka, whiskey, etc. ATTENTION! Alcohol intake does not include trying its taste or drinking a few sips"*.

Table 1 - Indicators referring to consumption of and exposure to alcoholic beverages among Brazilian adolescents aged from 13 to 17 years old in 2015 and 2019. 2015 and 2019 National School Health Survey

Indicators	Definition
Having tried alcoholic beverages	Trying a shot of alcohol at least once in life ("Have you ever had a shot of alcohol in your life?"). The answer options were: Yes and No
Having tried alcoholic beverages at age 13 or less	Having the first shot at age 13 or younger ("How old were you when you had your first alcohol glass or shot?")
Consumption of alcoholic beverages in the last 30 days	Consumption of alcoholic beverages in the last 30 days or current/regular consumption ("In the last 30 days, on how many days did you have at least one glass or shot of alcoholic beverages?"), with the "No" and "Yes" (1 or more days) codes.
Drunkenness episodes in life	Drunkenness at least once in life. Those who answered "1 or more times" to the following question: "How many times did you drink so much to the point of being really drunk in your life?".
Problems with family members or friends due to alcohol consumption	Report of problems due to alcohol consumption according to the following question: "How many times did you have problems with your family or friends, missed classes or engaged in a fight due to having drunk alcohol in your life?", with the "No" and "Yes" (1 or more times) codes.
Consumption of alcoholic beverages by friends in the last 30 days	Those who answered "Yes" to the following question: "In the last 30 days, has any of your friends drunk any alcoholic beverage in your presence?")
Binge drinking	Consumption of at least 5 shots of alcoholic beverages on one day in the 30 days prior to the survey, according to the following question: "In the last 30 days, on days when you drank an alcoholic beverage, how many glasses or shots did you have per day?".
Alcohol consumption by parents	Estimated according to positive answers to the following question: "Does your mother, father or guardian drink alcoholic beverages?". The answer options were: None of them: Only my father or male guardian; Only my mother or female guardian; Both (of them); or I don't know

For the adolescents who answered that they consumed alcoholic beverages at least one day in the 30 days prior to the survey, the number of glasses or shots of alcohol consumed (one, two, three, four, five or more glasses or shots) was evaluated. As well as the place where the alcoholic beverages are obtained, considering the age group, through the following question: In the last 30 days, how did you mostly obtain the beverage you drank? With the following answer options: I bought it at the store, market, pub, tavern or bakery; I bought it from a street vendor (peddler); I gave money to someone who bought it for me; I got it from my friends; I took it hidden at home; I got it from someone in my family; At a party; I got it another way.

Data analysis

Data analysis was performed in the *Statistical Software for Data Science* (STATA) software, version 14.0, and the post-stratification sampling structure and weights were considered for all the analyses.

Initially, the prevalence values and the respective 95% confidence intervals (95% CI) corresponding to the indicators of consumption of and exposure to alcoholic beverages in 2015 and 2019 were estimated. Subsequently, the prevalence values of the indicators were estimated according to gender, age group (13-15 years old and 16 and 17 years old) and administrative system (public and private) in 2019. In addition, the prevalence values for alcohol consumption in the last 30 days and for problems with family members or friends due to consumption of alcoholic beverages were analyzed according to Federation Units and regions.

The differences between the groups were considered significant when there was no overlapping of the 95% CIs.

Ethical aspects

The data used are in the public domain and are available in the IBGE website (https://www.ibge.gov.br). PeNSE followed the guidelines set forth in Resolution No. 466/2012 of the National Health Council, which deals with research studies involving human beings. Both PeNSE editions were approved by the National Research Ethics Commission belonging to the MS, under opinion No. 1,006,487 (2015) and No. 3,249,268 (2019).

RESULTS

A total of 10,926 adolescents were analyzed in 2015: 50.3% male, 61.9% aged between 13 and 15 years old; 43.6% brown-skinned, 36.2% white-skinned, 13.2% black-skinned, 7.0% indigenous or Asian; and 87.1% attending public schools. In 2019, 125,123 adolescents were evaluated: 49.3%male; 66.6% aged between 13 and 15 years old; 43.5%; brown-skinned, 35.8% white-skinned, 13.7% black-skinned and 7.0% indigenous or Asian; and 85.8% attending public schools.

Stability was observed in the prevalence values for having tried alcoholic beverages at some point in life (61.4%; 95% CI: 59.3-63.6 in 2015 and 63.3%; 95% CI: 62.6-64.0 in 2019) and in consumption of alcoholic beverages in the last 30 days (29.3%; 95% CI: 27.6-31.2 in 2015 and 28.1%; 95% CI: 27.3-28.8 in 2019). Having tried alcoholic beverages under the age of 13 rose from 30.6% (95% CI: 28.7-32.6 in 2015 to 34.6% (95% CI: 33.8-35.3) in 2019. Drunkenness at some point in life rose from 27.2% (95% CI: 25.4-28.9 in 2015 to 47.0% (95% CI: 46.0-47.9) in 2019. In 2015, 9.3% (95% CI: 8.4-10.2) reported having had problems with friends or family members due to alcohol consumption; whereas in 2019, this variables rose to 15.7% (95% CI: 15.1-16.2). Having friends who drink alcoholic beverages was reduced from 49.2% (95% CI: 47.1-51.3) in 2015 to 43.9% (95% CI: 43.0-44.7) in 2019 (Figure 1).

Table 2 presents the indicators referring to consumption of alcoholic beverages according to gender, administrative system and age groups in 2019. Having tried alcoholic beverages was higher among the girls (66.9%; 95% CI: 66.0-67.9) than among the boys (59.6%; 95% CI: 58.6-60.5) and it increased as age advanced, reaching its highest value in those aged 16 and 17 (76.8%; 95% CI: 75.9-77.8), with no differences referring to the type of school. Having tried alcoholic beverages under the age of 13 was more frequent among the girls (36.8%; 95% CI: 35.7-37.8) and in adolescents aged from 13 to 15 years old (39.6%; 95% CI: 38.7-40.4), with no differences according to the type of school.

Consumption of alcoholic beverages in the last 30 days was higher among the girls (30.1%; 95% CI: 29.2-31.0) and in older adolescents (38.9; 95% CI: 37.5-40.3). Binge drinking was reported by 6.9% (95% CI: 6.6-7.3), and was more frequent among adolescents aged 16-17 years old (11.6%; 95% CI: 10.9-12.3) and with no differences in relation to gender or type of school. Drunkenness episodes in life were more frequently reported among the adolescents aged 16-17 years old (58.1%; 95% CI: 56.8-59.4) and attending public schools (47.6%; 95% CI: 46.5-48.6). There was no difference by gender (Table 1).

Having had problems with their families or friends due to alcohol consumption was more frequent among girls (17.1%; 95% CI: 16.3-17.9), in adolescents aged 16

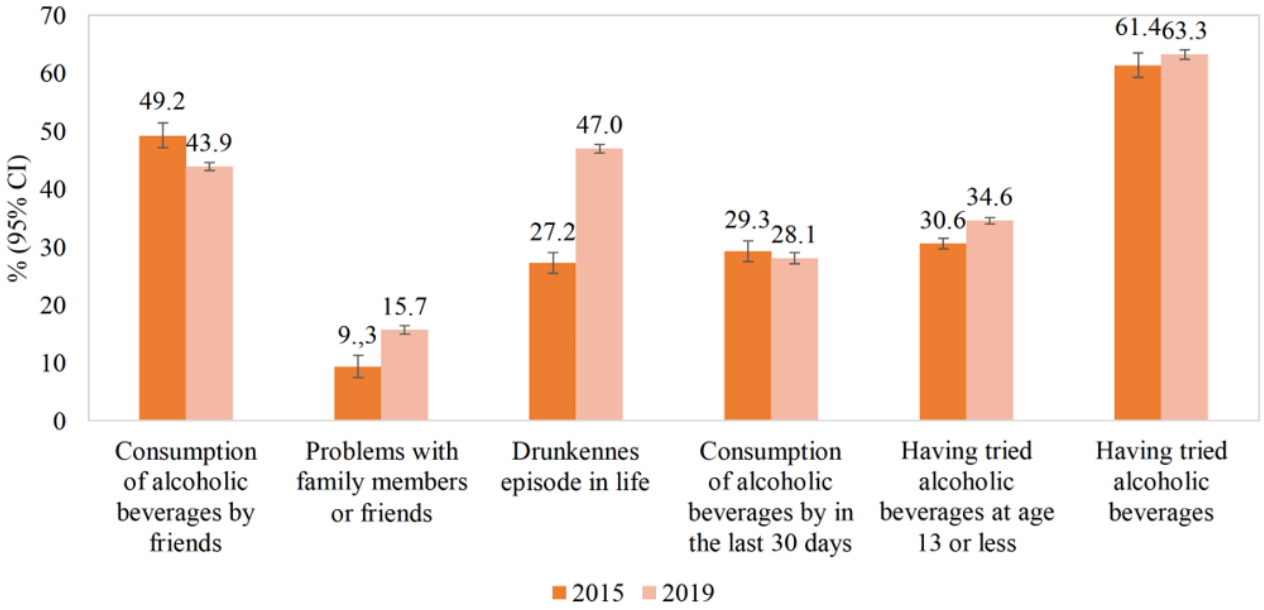

Figure1 - Prevalence and confidence interval of the indicators referring to consumption of and exposure to alcoholic beverages among adolescents aged from 13 to 17 years old in 2015 and 2019. 2015 and 2019 National School Health Survey

Table 2 - Indicators referring to consumption of and exposure to alcoholic beverages among adolescents, according to gender, administrative system and age group. 2019 National School Health Survey

Indicators	13-17 years old					Age groups (in years old)	
	Total	Gender		Administrative system			
		Male	Female	Public	Private	13-15	16 and 17
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Having tried alcoholic beverages	63.3 (62.6-64.0)	59.6 (58.6-60.5)	66.9 (66.0-67.9)	63.5 (62.7-64.3)	62.1 (61.2-63.1)	55.9 (40.0-42.3)	76.8 (75.9-77.8)
Having tried alcoholic beverages at age 13 or less	34.6 (33.8-35.3)	32.3 (31.5-33.2)	36.8 (35.7-37.8)	34.4 (33.5-35.2)	35.9 (35.0-36.7)	39.6 (38.7-40.4)	25.4 (24.3-26.5)
Alcohol use in the last 30 months	28.1 (27.3-28.8)	26.2 (25.0-26.9)	30.1 (29.2-31.0)	28.1 (27.2-29.0)	27.6 (26.7-28.6)	22.1 (21.3-23.0)	38.9 (37.5-40.3)
Binge drinking	6.9 (6.6-7.3)	7.0 (6.5-7.4)	6.9 (6.5-7.3)	6.9 (6.5-7.3)	6.9 (6.5-7.3)	4.4 (4.1-4.7)	11.6 (10.9-12.3)
Drunkenness episodes in life	47.0 (46.0-47.9)	46.2 (45.1-47.3)	47.6 (46.5-48.8)	47.6 (46.5-48.6)	43.4 (42.2-44.6)	38.6 (37.5-39.7)	58.1 (56.8-59.4)
Problems with family members or friends	15.7 (15.1-16.2)	14.0 (13.3-14.7)	17.1 (16.3-17.9)	15.3 (14.7-16.0)	17.6 (16.9-18.3)	14.0 (13.3-14.7)	17.8 (17.0-18.7)
Alcohol consumption by parents	58.9 (58.2-59.6)	56.6 (55.7-57.4)	61.1 (60.3-62.0)	56.9 (56.1-57.6)	70.8 (70.0-71.6)	58.6 (57.8-59.5)	59.3 (58.2-60.5)
Alcohol consumption by friends	43.9 (43.0-44.7)	42.7 (41.8-43.7)	45.0 (43.9-46.1)	44.3 (43.3-45.3)	41.2 (40.0-42.3)	38.2 (37.2-39.2)	54.2 (52.8-55.6)

and 17 years old (17.8%; 95% CI: 17.0-18.7) and attending public schools (21.8%; 95% CI: 20.7-22.9) (Table 1).

It was verified that 58.9% (95% CI: 58.2-59.6) of the students asserted that their parents drank alcoholic beverages, an answer that was more frequent among girls (61.1%; 95% CI: 60.3-62.0) and in adolescents attending private schools (70.8%; 95% CI: 70.0-71.6). The percentage of schoolchildren that reported having a friend who drank alcoholic beverages in their presence was higher among female adolescents (45.0%; 95% CI: 43.9-46.1), in students from public schools (44.3%; 95% CI: 43.3-45.3) and among older adolescents (54.2%; 95% CI: 52.8-55.6) (Table 1).

When analyzing consumption of alcoholic beverages at least one day during the 30 days prior to the survey according to region of the country, higher prevalence was observed in the South region (38.4%; 95% CI: 36.6-40.2), especially in Santa Catarina (41.4%; 95% CI: 37.9-44,9) and in Rio Grande do Sul (40.3%; 95% CI: 37.4-43.3); whereas lower values were noticed in the North region (19.3%; 95% CI: 18.1-20.4), such as in Amapá (16.9%; 95% CI: 15.1-18.7), Pará (17.0%; 95% CI: 15.1-19.0) and Amazonas (17.2%; 95% CI: 15.1-19.3) (Figure 2A).

The percentage of schoolchildren that had problems with family members or friends, missed classes or engaged in fights at least once due to having drunk alcohol was higher in the state of Rio de Janeiro (20.0%; 95% CI: 18.1-22.0) and in *Distrito Federal* (19.7%; 95% CI: 17.9-21.5) (Figure 2B).

Among the schoolchildren who drank at least one day during the 30 days prior to the survey, 33.9% (95% CI: 32.7-35.2) reported having drunk one glass or shot, 18.5% (95% CI: 17.6-19.3) two glasses or shots, 12.6% (95% CI: 11.9-13.4) three glasses or shots, 9.8% (95% CI: 9.1-10.5) four glasses or shots and 24.7% (95% CI: 23.7-25.7) five or more glasses or shots. Consumption was higher in schoolchildren aged 16-17 years old (Figure 3).

It was observed that the most common way to obtain alcoholic beverages was at parties, followed by buying them in stores, markets, pubs or supermarkets and getting them from friends in all age groups (Figure 4).

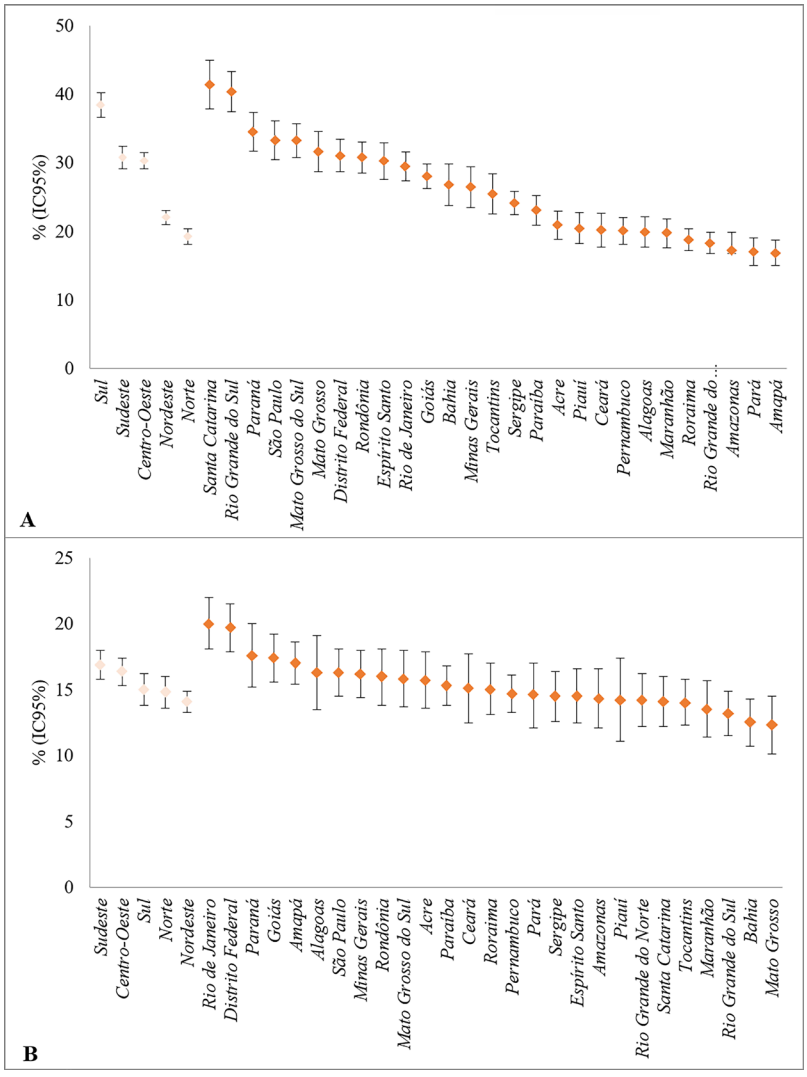

Figure 2 - Percentage of students who consumed alcoholic beverages at least one day in the 30 days prior to the survey, according to regions and states of the country (A); and who had problems with their family or friends, missed classes or engaged in fights one or more times, because they had been drinking (B). 2019 National School Health Survey

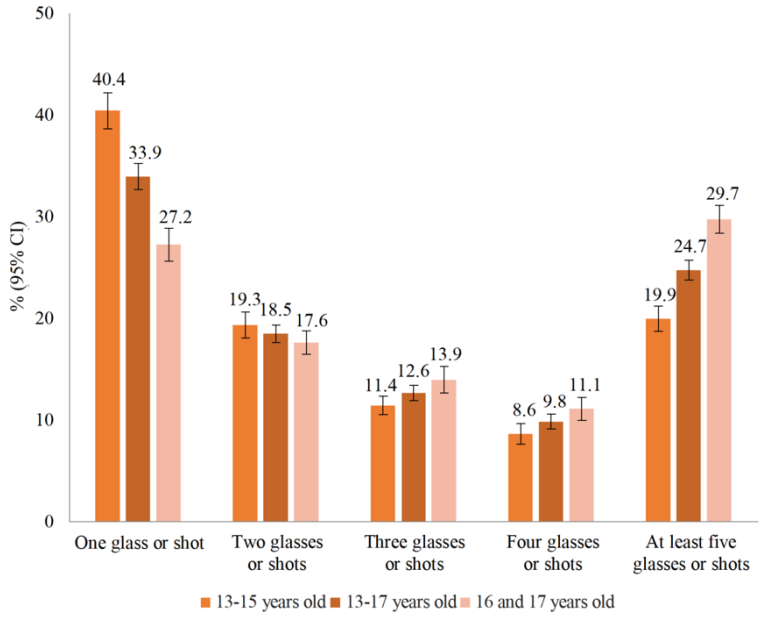

Figure 3 - Percentage and confidence interval of alcohol consumption at least one day in the 30 days prior to the survey, by number of glasses or shots drunk in the last 30 days, according to age group. 2019 National School Health Survey

Figure 4 - Percentage and confidence interval of the place where the alcoholic beverages were obtained, according to age groups. 2019 National School Health Survey

DISCUSSION

The findings of this research point to the magnitude of the consumption of and exposure to alcoholic beverages among Brazilian adolescents. Between 2015 and 2019, there was an increase in having tried alcoholic beverages before the age of 13, drunkenness episodes and reports of problems with friends or family members, as well as a reduction in the prevalence of having friends who drink alcoholic beverages. In general terms, in 2019 higher prevalence values of the indicators are observed in the female gender and among older adolescents. As for the school administrative system, there was alternation: some indicators were more prevalent among public school students,

such as drunkenness episodes and having friends who drink alcoholic beverages; and others were more recurrent in private schools, such as consumption of alcoholic beverages by parents and having problems with their families or friends due to alcohol consumption. The most frequent places to obtain alcoholic beverages were parties, and more than a quarter of the students reported having bought them in stores.

The indicators referring to consumption of alcoholic beverages among Brazilian adolescents remained high between both years under study, revealing a public health problem in the country. Having tried alcohol at least once in life and consumption of alcoholic beverages in the last 30 days - an important indicator for monitoring frequent and regular use among adolescents — remained stable in the last two editions of PeNSE, although at high levels. It is noted that one of the WHO goals is to reduce this consumption by 10% by 2030; however, no advances were observed between both editions of the survey.[7] In addition to that, progress in relation to the goals also agreed upon in the 2030 Agenda necessarily implies multisectoral articulation. Above all, it requires integrated and urgent actions by policy makers, civil society and governments, involving the adolescents themselves, with a view to achieving the goals agreed upon by the UN Member States, thus guaranteeing the health and well-being of the next generations.[13]

Having tried alcoholic beverages under the age of 13 was increased between both years analyzed. The high prevalence of early initiation and experimentation among Brazilian adolescents is a consequence of the high social acceptance of its use in Brazil and in most countries of the world, indicating flaws in the measures that regulate and supervise enforcement of the legislation.[5,14,15] Alcoholic beverages are a legal drug, and daily exposure to alcohol industry marketing helps to naturalize and enhance their consumption.[16] A systematic review found that exposure to alcohol marketing was associated with alcohol use behaviors among young people.[17]

The prevalence values of the drunkenness episodes doubled from 2015 to 2019, and were also higher than those reported in other countries. The HBSC showed that one out of five (20%) individuals reported having been drunk two or more times in their life, and that one out of seven 15-year-olds (15%) had drunk excessively or been drunk two or more times in their life, mostly among boys in all age groups.[5] Regardless of the pattern of use, alcohol consumption increases adolescents' vulnerability, exposing them to the risk of being involved in episodes of accidents and violence, risky sexual behaviors and premature death, among other preventable health problems.[2,3] In addition, these episodes become more frequent when there is heavy consumption, even if episodic.

The frequency of students that reported problems with their families and friends and at school almost doubled between the years analyzed. A study carried out with 1,170 adolescents in a city from southern Brazil found 48% more substance experimentation among young people who reported having parents who drink alcoholic beverages than among those whose parents do not do so; in addition, 10.5% reported having had some of these problems related to alcohol in the last 30 days.[18] Therefore, the importance of understanding the school locus as a potential space for developing health education and health promotion actions is reiterated, especially with an emphasis on promoting awareness among adolescents, family members and the entire school community about the avoidable risks in relation to use and early exposure to alcoholic beverages. All of the above is in line with the assumptions of the School Health Program and with the National Policy for Adolescents' and Young People's Comprehensive Healthcare.[19]

Although having decreased between the years analyzed, almost half of the Brazilian adolescents reported that their friends drink in their presence. Peer social networks exert great influence on decisions and habits among adolescents.[20] In general, information disseminated by friends is better assimilated and incorporated than information transmitted by other people, which indicates greater influence of friends than the rest of the adolescents' social circle.[21] Consequently, keeping a circle of friends who drink or use alcoholic beverages regularly can contribute to the naturalization of this practice and encourage initiation of other young people.

Also in this perspective, nearly half of the Brazilian schoolchildren indicate that their parents drink alcoholic beverages. This important finding reveals the risk of this practice for adolescents' health, which can stimulate and normalize its use among young people.[14,21] There is diverse evidence of the importance of the family in protecting the adolescents, discouraging risky behaviors to individual and collective health, such as consumption of alcoholic beverages.[6,20]

It was evidenced that alcohol consumption was increased as age advanced and among the girls. The increase in the prevalence of consumption as age advances is a phenomenon that has already been pointed out in the PeNSE 2015 results[22], whereas the increase among women is an emerging phenomenon. Studies with the Brazilian adult population show that, over the years, boys tend to outperform girls in relation to this behavior, although pointing to convergence between the prevalence values.[23] Therefore, the

relationship between alcohol consumption and the gender variable should continue to be monitored, as it may constitute a cohort effect due to new trends in gender identities.[22]

Easy access to alcoholic beverages turns into a concern. Although the legislation prohibits sale to adolescents - even punishing adults who facilitate access - ease of access was observed in the study, indicating a possible failure in supervision and enforcement of the legislation in the country.[15] The students gained access to alcoholic beverages at parties, bought them in pubs, stores, supermarkets and sales. Access at their own homes and the consent of friends and family denotes flaws in family supervision or may reflect the very normalization of this practice among adolescents.[20,22]

The role of alcohol industry marketing in influencing consumption among young people and adolescents is well documented in the literature, configuring itself as a commercial determinant of health.[24] In Brazil, there are gaps in the legislation on the alcohol industry marketing, as beer advertisements on television during free time are allowed. In addition, the national legislation in force considers as alcoholic beverages only those with an alcohol content above 13 Gay-Lussac degrees.[23] Continuous exposure to beer advertisements normalizes and encourages its use, putting the health of adolescents at risk, which reiterates the importance of expanding regulation to cope with alcohol.[23,24]

The WHO highlights the relevance of advancing regulatory measures to fight against consumption of alcoholic beverages, with attention to the commercial determinants of health, aiming to stop the avoidable burden of alcohol for families, governments and society. The following measures advocated by the WHO stand out: prohibition of advertising, increase in the taxation of beverages, reduction of sale points and hours and prohibition of open-pub parties, in addition to forcing the stores to provide free water on their premises, among others.[25]

In this context, in order to advance in fighting against alcohol consumption and implement changes in the consumption patterns, mainly among adolescents, it is necessary to expand the regulatory measures. This includes prohibiting the marketing of alcoholic beverages in the country, expanding supervision of beverage sales and promoting actions to raise awareness of the harms caused by this widely accepted and socially stimulated drug. Such measures would favor coping and a change in the consumption culture, as was the case with tobacco in Brazil.[14,25]

Some limitations of this study should be considered. In the first place, the fact that the participants answered a self-report questionnaire is subjected to information bias. According to the PeNSE questionnaire module, it did not undergo any validation study, which can result in measuring bias. Third, the results refer to students attached to the school environment and who agreed to participate in the research; however, it is understood that there is significant school dropout among Brazilian adolescents, which may be an object explored in future research studies.

Among the potentialities, it is pointed out that the study gathers data from nationally representative samples of Brazilian students, providing an overview of the indicators of consumption and exposure to alcoholic beverages in the last two editions of PeNSE. Therefore, these findings can be used as baseline for future actions on the theme in the country, making it possible to advance in monitoring the goals of the national and international agendas to fight against Non-Communicable Diseases and Health Problems.

CONCLUSION

A concerning panorama in relation to alcohol consumption among Brazilian schoolchildren was evidenced, as an increase was identified in various indicators related to such consumption. Despite the legislation specifically aimed at protecting children and adolescents and the programs and public policies to combat alcohol consumption, the findings of the current study show early exposure to alcoholic beverages, with high prevalence of experimentation and consumption of alcoholic beverages and drunkenness at least once in life, with girls and older adolescents as the ones with the highest prevalence values. In this sense, it becomes imperative to adopt measures to cope with this situation in the country.

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