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Illicit drugs and their association with tobacco and alcohol use in adolescents and young schoolchildren

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Abstract

The use of psychoactive drugs is generally preceded by the use of alcohol and tobacco, increasing the potential to cause damage to the health and quality of life of adolescents and young adult students. The aim of the present study was to determine the prevalence of illicit drug use and its association with the use of tobacco and alcohol in adolescents and young schoolchildren in the city of Petrolina, PE. This was an epidemiological, school-based, descriptive, correlational, and cross-sectional study, carried out in state public schools, with students aged 12 to 24 years old. A socioeconomic survey and the Youth Risk Behavior Survey (YRBS) were applied to assess risk behaviors. Descriptive analysis, Chi-squared test and Poisson regression were performed to assess the Prevalence Ratio (PR). In all analyses, a significance level of $p < 0.05$ was adopted. 1,326 students were evaluated. Of the total eligible students (n=1,275), 12.9% reported having used an illicit drug during their lifetime. In the regression analysis, the use of illicit drugs was associated with tobacco use (PR 2.95 [1.94-4.50]), binge drinking (PR 2.13 [1.42-3.18]) and higher maternal education (PR 1.69 [1.12-2.55]). The use of illicit drugs had an important prevalence and was significantly associated with the use of tobacco, episodes of binge drinking and with the level of maternal education.

Key words: Adolescent behavior; Illicit drugs; Risk behavior; Tobacco; Alcoholic beverages.

INTRODUCTION

Adolescence is the stage of life that comprises childhood and adulthood, characterized by a complex process of biopsychosocial growth and development[1]. The chronological limits of adolescence are defined by the World Health Organization (WHO) as being between 10 and 19 years old and by the United Nations (UN) as between 15 and 24 years old. The term young adult is also used to include the age group of 20 to 24 years old[2].

It is a phase of discoveries, transformation and learning, which involves concerns, exposure to risky situations and the

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experimentation of many adult behaviors[1,3]. Some of these behaviors and experiences represent risk factors relevant to health, such as alcohol consumption, smoking, use of illicit drugs, inappropriate eating habits, involvement in situations of physical violence, physical inactivity and unprotected sex[4].

This is the age group considered most likely to develop substance use. The experimentation with different substances generally occurs in early adolescence, with subsequent acquisition of a pattern of regular consumption[4, 5]. The reasons that increase the use of these substances are varied and complex, from changes in the organization and function of the brain, characteristics of neurodevelopment and other aspects related to the period of life, such as the feeling of omnipotence, challenges to social and family rules and the search for different experiences[6, 7].

The use/abuse of illicit drugs is a risky behavior in adolescence and youth which has a high potential to generate damage in the short and long term, since these substances can potentially act upon the brain and act in different ways. Stimulants make the brain work faster, causing an increased state of alert. These drugs cause joy and well-being, and in this group, amphetamines, ecstasy, and cocaine stand out. Depressors cause the Central Nervous System (CNS) to function more slowly, producing a feeling of tranquility and disconnection from reality, and tranquilizers are examples of this group. Hallucinogens disturb brain function, these drugs do not speed up or slow down the CNS, but they have the ability to cause delusions, illusions, and hallucinations accompanied by relaxation or euphoria, the main representative of this group is marijuana[8].

According to the results of the third edition of the National School Health Survey9, carried out in 27 Brazilian capitals, 15.7% of adolescents aged 13 to 17 years had already tried illegal substances. The use of these psychoactive drugs is usually preceded by the use of alcohol and tobacco[7,10,11], and may also add other risk behaviors, which have a high potential to cause damage to the health as well as the development and quality of life of adolescents[11-14] .

Considering the negative repercussions caused by the use of illicit drugs and their association with the use of tobacco and alcohol, the investigation of these behaviors in adolescents and young adult students is essential to direct preventive and educational actions aimed at raising awareness in this group. The development of studies that identify risk groups for the use of illicit drugs, as well as factors associated with consumption, is important for the construction of the epidemiological profile regarding their conduct; especially in the interior of Pernambuco, where investigations tend to be more scarce. Thus, the aim of this study was to determine the prevalence of illicit drug use and its association with the use of tobacco and alcohol in adolescent and young adult students.

METHODS

This was a school-based epidemiological study, with a cross-sectional, descriptive, and correlational design. The study was conducted in 2014 with adolescent and young adult students of both sexes enrolled in urban public schools in the city of Petrolina,

aged between 12 and 24 years. The study was approved by the Ethics Committee of the University of Pernambuco (CAAE No. 24288213.2.0000.5207).

To ensure that the sample selected was representative of the target population, the size of the schools was considered: schools with less than 200 students were considered small; 200 to 499 students were medium sized; and with more than 500 students were considered a large size15,16. For sample selection, a two-stage random sampling procedure was used, in which "school" and "class" represented the sample units. All 29 state public schools in the urban area of Petrolina were considered eligible for inclusion in the study. After all stages, a total number of nine selected elementary and high schools was reached, which represented 31.03% of state schools in the city of Petrolina.

To quantify the sample, the WINPEPI program was used considering a population of 25,635 students, with a 95% confidence interval, a maximum tolerable error of 5 percentage points, a sample loss of 20%, an estimated prevalence of 50%, and a design effect of two. This resulted in 948 adolescents. In total, 1326 adolescents and young adults were evaluated.

Schools and classes were randomized using the electronic platform https://www.randomizer.org/, which provided random numbers. All students from each selected classroom were invited to participate in the study. The inclusion criterion adopted was adolescents and young adults regularly enrolled in these public schools. Exclusion criteria included inadequate questionnaire completion, students absent on the day the questionnaire was applied, or students and/or guardians who refused to participate in the study.

The volunteers received a self-explanatory, anonymous questionnaire, without any type of personal identification. Sociodemographic characteristics (gender, age, marital status, children, religion, education of father and mother) and economic characteristics (monthly family income in minimum wages) were assessed using a questionnaire with multiple choice questions, prepared by the researchers and based on the criteria of the Brazilian Institute of Geography and Statistics.

The Brazilian version of the Youth Risk Behavior Survey (YRBS), validated by Guedes and Lopes17, was used to assess risk behaviors. It is an instrument developed by the Center for Disease Control and Prevention (CDC), which involves 87 questions related to six categories of health risk behaviors in adolescents and young adults: behaviors that contribute to unintentional injuries and violence (20 questions); tobacco use (11 questions); use of alcohol and other drugs (6 questions about alcohol; 13 questions about other drugs); sexual behavior towards unwanted pregnancies and sexually transmitted diseases, including HIV infection (8 questions); unhealthy eating behaviors (8 questions); and inadequate physical activity (5 questions). In addition, YRBS monitors the prevalence of obesity and asthma, other priority health behaviors and sociodemographic data (16 questions). The CDC and other federal agencies use YRBS data in various reports and publications. Each of these reports that use YRBS data, aim to stimulate and support improvements in public health interventions18. Several studies have shown that YRBS is a valid

and reliable instrument[19,20]. The validation of the Brazilian version showed a kappa concordance index between moderate to substantial, with an average value of this index of 68.6%, indicating the quality of the psychometric properties of YRBS[17].

This study was part of a larger project that assessed the prevalence and impact of various risk behaviors in adolescents and young adults. In this study, we chose to evaluate the domains of tobacco use and consumption of alcoholic beverages and other drugs. The domains concerning use of tobacco, alcohol and other drugs were analyzed with the following questions: tobacco use during their life; alcohol use during their life, binge drinking, and illicit drug use during their life (the variable use of illicit drugs included marijuana, cocaine, inhalants, ecstasy, crack, heroin and injectables).

The data were analyzed in the Statistical Package for Social Science (SPSS), version 2.0. The categorical data were presented in absolute and relative frequencies. The prevalence values and possible associations were calculated using the Chi-squared or Fisher's tests. The variables that were associated with the outcome ($p \leq 0.20$) were included in the regression model.

Prevalence ratios were used in crude and adjusted analyses as a measure of association, estimated by Poisson Regression with an adjustment for robust variance. The results are demonstrated by the estimate of the Prevalence Ratios (PR) and 95% CI. Variables with a p-value <0.05 were associated with the studied outcome.

RESULTS

Of the 1,326 students evaluated, 51 were excluded due to the lack of relevant information, such as gender or those regarding the domains evaluated in this study. Thus, the final sample consisted of 1,275 students. Sociodemographic and economic characteristics, as well as the licit and illicit use of drugs are shown in Table 1. Most of the sample was composed of women, aged 15 years or older, brown, who were religious, single, with parents who had more than 8 years of schooling and a family income of up to 3 minimum wages.

Among the students evaluated, 164 (12.9%; CI [11.07-14.83]) reported having used some illegal substance in their lives. More than half of adolescents and young adults reported having had already consumed alcohol, and about 19% had already been involved in binge drinking. Finally, about 22% of adolescents reported having used tobacco (Table 1).

Table 2 shows the association between the use of illicit drugs and the independent variables. After analyzing the association performed with the Chi-squared test, only the variables that had a p-value ≤ 0.20 passed for Poisson Regression analysis. Adolescents who reported binge drinking and using tobacco had a higher prevalence of 113% and 195% of illicit drug use compared to those who did not consume alcohol and did not use tobacco, respectively. Mothers with higher education levels increased the prevalence of illicit drug use by 69% among adolescents, compared to mothers with less than 8 years of schooling.

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Table 1- Sociodemographic characteristics, use of illicit drugs, and consumption of tobacco and alcohol among adolescent and young adult students.

Variables	n	%	95% IC
Sexo (1275)			
Female	716	56.2	53.5-58.9
Male	559	43.8	40.5-45.9
Age (1272)			
12 – 14 years	515	40.5	37.8-43.2
15 – 19 years	757	59.5	56.8-62.2
Ethnicity (1266)			
White	259	20.5	18.3-22.9
Black	174	13.7	11.8-15.6
Brown	697	55.1	52.3-57.9
Other	136	10.7	9.0-12.5
Religious (1252)			
Yes	1033	82.5	80.3-84.6
No	219	17.5	15.4-19.7
Marital Status (1253)			
Single	1185	94.6	93.2-95.8
Not single	68	5.4	4.2-6.8
Academic year (1269)			
7th year	124	9.8	8.2-11.5
8th year	255	20.1	17.9-22.4
9th year	211	16.6	14.6-18.8
1st year of High School	227	17.9	15.8-20.1
2nd year of High School	218	17.2	15.1-19.4
3rd year of High School	234	18.4	16.3-20.7
Paternal Education (888)			
≤ 8 years of study	437	49.8	33.6-39.7
> 8 years of study	441	50.2	60.3-66.4
Maternal Education (989)			
≤ 8 years of study	362	36.6	33.6-39.7
> 8 years of study	627	63.4	60.3-66.4
Monthly Family Income (756)			
≤ 3 Minimum wages	628	83.1	80.2-85.7
> 3 Minimum wages	128	16.9	14.3-19.8
Use of illicit drugs (1275)			
Yes	164	87.1	85.17-88.93
No	1111	12.9	11.07-14.83
Alcohol use during life (1267)			
Yes	667	52.6	49.77-55.35
No	600	47.4	44.65-50.23
Binge Drinking (1267)			
Yes	243	19.2	17.05-21.46
No	1024	80.8	78.54-82.95
Tobacco use during life (1272)			
Yes	278	21.9	19.67-24.29
No	994	78.1	75.71-80.33

CI- Confidence interval; Note: The total numbers may differ as some data were not answered in the survey.

Table 2- Association between the use of illicit drugs and the independent variables among adolescent and young adult students.

Variables	Illicit Drug Use			
	Gross PR (95% CI)	P-value	Adjusted PR (IC 95%)	P-value
Sex				
Male	1.56 (1.17-2.08)	0.002	1,31 (0,89-1,91)	0,165
Female	1		1	
Age				
12 – 14 years	0.63 (0.46-0.87)	0.004	0,72 (0,47-1,11)	0,135
15 – 18 years	1		1	
Religious				
Yes	1		1	
No	1.47 (1.05-2.05)	0.024	0.92 (0.59-1.43)	0.701
Marital Status				
Single	1		1	
Not single	1.66 (1.02-2.71)	0.043	1.15 (0.74-1.78)	0.571
Paternal Education				
≤ 8 years of study	1		1	
> 8 years of study	1.26 (0.88-1.79)	0.202	1.04 (0.72-1.52)	0.825
Maternal Education				
≤ 8 years of study	1		**1**	
> 8 years of study	1.49 (1.03-2.17)	0.035	**1.69 (1.12-2.55)**	**0.013**
Alcohol use during life				
Yes	3.60 (2.48-5.21)	< 0.001	1.64 (0.87-3.07)	0.123
No	1		1	
Binge Drinking				
Yes	4.01 (3.04-5.29)	< 0.001	**2.13 (1.42-3.18)**	**< 0.001**
No	1		**1**	
Tobacco use during life				
Yes	5.07 (3.82-6.73)	< 0.001	**2.95 (1.94-4.50)**	**< 0.001**
No	1		**1**	

CI- Confidence Interval; PR - prevalence ratio. P-value <0.05.

DISCUSSION

Among the adolescents and young adults assessed, 12.9% reported having used illicit drugs during their lifetime. Among the risk behaviors analyzed, an association was found between the use of these substances and binge drinking and the use of tobacco. As for sociodemographic and economic characteristics, only maternal education was associated with the studied outcome.

The prevalence of illicit drug use found in our study is similar to the rates found in adolescents in Belo Horizonte, MG, where a prevalence of 15.2% 21 was reported, as well as among adolescents in Olinda, PE, where the rate of use was 15.8% 22. Therefore, it is possible to verify that Petrolina, despite being located in the interior of the northeastern backcountry, demonstrates rates of illicit drug use similar to the large capitals or cities located in metropolitan regions. This finding is important because it brings elements that help to demystify that adolescents and young adults from smaller cities would have less access to these drugs and, therefore, the rates of use would be lower. In fact, these findings may indicate that perhaps the growth in rates of illicit drug use may be occurring in a similar way among adolescents living in different cities and regions of the country.

The assumption that the use of illegal substances is generally associated with the use of legal drugs by adolescents and young adults was confirmed in the present study. Students who reported binge drinking and those who smoked at some point in their lives were more likely to use illicit drugs. The probability of using illicit drugs among adolescents who reported binge drinking was 2.13 higher than those who did not practice this, corroborating with some studies that also demonstrated this association. A study by Silva-Oliveira et al.23 found an association between binge drinking and using inhalants, and Raposo et al.24 found that binge drinking was associated with the use of marijuana, cocaine, and inhalants.

Regarding smoking, students who have used cigarettes during their lifetime were 2.95 times more likely to use illicit drugs. As noted for alcoholic beverages, the use of cigarettes acts as a gateway to the use of illicit substances. Other authors have also verified this association25,26. In the study by Backes et al.27, students who used tobacco were 20 times more likely to have used illicit drugs. Likewise, Iglesias et al.28 in a study with schoolchildren in Chile found that the probability of using marijuana among smokers is almost 10 times higher when compared to non-smokers, and the use of tobacco is an important risk factor for cannabis use.

In our study, the illicit drug variable covered all drugs questioned in the instrument used (marijuana, cocaine, inhalants, ecstasy, crack, heroin, and injectables), and the associations found can be explained by the characteristic multiplier effect of using psychoactive substances in this relationship; where the consumption of one leads to an increased risk of using the other29. The legality of alcohol and tobacco makes these substances more readily available, allowing the acquisition of these habits and increasing the chances of progression to the use of illicit drugs, a fact that concerns the increased potential of the harmful effects resulting from the combination of these substances.

In addition to the variables related to risk behaviors, sociodemographic and economic variables were also analyzed. Of these, the only one associated with the result was

maternal education. The high level of maternal education generally facilitates the acquisition of healthy lifestyle habits by adolescent children30. However, in the present study, it was observed that adolescents and young people whose mothers had more than eight years of study, were 1.69 times more likely to use illegal substances.

In the study by Horta et al.10 this association was also identified, and it was observed that the use of drugs during their lifetime was greater among adolescents whose mothers had completed or incomplete higher education. Humensky31 found that increased parental education is associated with higher rates of marijuana and cocaine use. A possible explanation for this association would be the fact that mothers with higher education are those who can work outside the home and spend less time in the company of their teenage children32. This condition would allow greater access to these substances, due to the fact that adolescents and young adults are alone for a long time and in contact with a group of friends, factors that can encourage the adoption of risky behaviors. In addition, the approach and greater presence of parents would have a protective effect for the acquisition of such behavior32.

In view of the results found, it is believed that the understanding of risk situations in this age group can subsidize integrated health education actions, with the strengthening of initiatives in the school environment, aiming at the reduction of harmful behaviors.

This study has some limitations, such as the fact that it is composed only of students from public schools, which may have restricted the view of the problem in question. The instrument used, although broad, fails to question points regarding the use of illicit substances, such as the age when their first used, factors that facilitate the acquisition of this habit, and family aspects related to the use of psychoactive substances.

Despite these limitations, this study can serve as a basis for future research, such as longitudinal studies, in addition to helping to improve intervention programs aimed at adolescents and young adults.

CONCLUSION

Although the prevalence of illicit drug use was not so high, it indicates the existence of the problem. Thus, it is concluded from the data of the present study that the use of illicit drugs showed a significant association with the use of tobacco, binge drinking, and a higher level of maternal education. As adolescence is a phase of acquiring habits that can last throughout the adult life, studies that investigate the adoption of behaviors considered risky are of great relevance for the construction of the epidemiological profile of these individuals. Understanding the problems and situations that this age group may be involved in can support integrated education and health actions to strengthen initiatives in the school environment, aimed at reducing harmful behaviors for this age group.

REFERENCES

1. Filho EAF. Perfil do consumo de álcool e drogas ilícitas entre adolescentes escolares de uma capital brasileira. SMAD, Rev Eletrônica Saúde Mental Álcool Drog. 2014;10(2):78-84. doi.org/10.11606/issn.1806-6976.v10i2p78-84
2. Young people's health - a challenge for society. Report of a WHO Study Group on young people and "Health for All by the Year 2000". World Health Organ Tech Rep Ser. 1986;731:1-117.
3. Lima AS, Pitangui ACR, Gomes MRA, Mola R, Araújo RC. Comportamentos sexuais de risco e associação com sobrepeso e obesidade em adolescentes escolares: um estudo transversal. Einstein. 2019;17(3):eAO4782. doi:10.31744/einstein_journal/2019AO4782
4. Mola R, Araújo RC, Oliveira JVB, C SB, Souza GFF, Ribeiro LP, et al. Association between the number of sexual partners and alcohol consumption among schoolchildren. J Pediatr. 2017;93(2):192-199. doi:10.1016/j.jped.2016.05.003
5. Chambers RA, Taylor JR, Potenza MN. Developmental neurocircuitry of motivation in adolescence: a critical period of addiction vulnerability. Am J Psychiatry. 2003;160(6):1041-1052. doi:10.1176/appi.ajp.160.6.1041
6. Vieira DL, Ribeiro M, Romano M, Laranjeira RR. Álcool e adolescentes: estudo para implementar políticas municipais. Rev Saude Publica. 2007;41(3):396-403.
7. Elicker E, Palazzo LS, Aerts DRGC, Alves GG, Câmara S. Uso de álcool, tabaco e outras drogas por adolescentes escolares de Porto velho-RO, Brasil. Epidemiol Serv Saúde. 2015;24(3):399-410. doi.org/10.5123/S1679-49742015000300006
8. Andrade SSCA, Yokota RTC, Sá NNB, Silva MMA, Araújo WN, Mascarenhas, MDM, Malta DC. Relação entre violência física, consumo de álcool e outras drogas e bullying entre adolescentes escolares brasileiros. Cad Saúde Pública. 2012;28(9):1725-36. doi.org/10.1590/S0102-311X2012000900011
9. Instituto Brasileiro de Geografia e Estatística (IBGE). Pesquisa Nacional de Saúde do Escolar (PeNSE 2015). Rio de Janeiro: IBGE; 2016.
10. Horta RL, Horta BL, da Costa AW, do Prado RR, Oliveira-Campos M, Malta DC Uso na vida de substâncias ilícitas e fatores associados entre escolares brasileiros, Pesquisa Nacional de Saúde do Escolar (PeNSE 2012). Rev Bras Epidemiol. 2014;17 Suppl 1:31-45. doi:10.1590/1809-4503201400050004
11. Sanchez ZM, Nappo SA, Cruz JI, Carlini EA, Carlini CM, Martins SS. Sexual behavior among high school students in Brazil: alcohol consumption and legal and illegal drug use associated with unprotected sex. Clinics. 2013;68(4):489-494. doi:10.6061/clinics/2013(04)09
12. Garbarino J. Why are adolescents violent? Cien Saude Colet. 2009;14(2):533-538. doi:10.1590/s1413-81232009000200021
13. Souza LD, Silva RA, Jansen K, Kuhn RP, Horta BL, Pinheiro RT. Suicidal ideation in adolescents aged 11 to 15 years: prevalence and associated factors. Braz J Psychiatry. 2010;32(1):37-41. doi:10.1590/s1516-44462009005000011
14. Oliveira- Campos M, Nunes ML, Madeira FC, Santos MG, Bregmann SR, Malta DC, Giatti L, Barreto SM. Comportamento sexual em adolescentes brasileiros, pesquisa Nacional de Saúde do Escolar (PeNSE 2012). Rev Bras Epidemiol. 2014;17(supl. 1):116-30. doi.org/10.1590/1809-4503201400050010
15. Xavier MKA, Pitangui ACR, Silva GRR, Oliveira VMA, Beltrão NB, De Araújo RC. Prevalência de cefaleia em adolescentes e associação com uso de computador e jogos eletrônicos. Ciênc saúde coletiva. 2015;20(11):3477-86. doi.org/10.1590/1413-812320152011.19272014
16. Silva GR, Pitangui AC, Xavier MK, Correia-Júnior MA, De Araújo RC. Prevalence of musculoskeletal pain in adolescents and association with computer and videogame use. J Pediatr. 2016;92(2):188-196. doi:10.1016/j.jped.2015.06.006
17. Guedes DP, Lopes CC. Validação da versão brasileira do Youth Risk Behaviour Survey 2007. Rev Saúde Publica. 2010;44(5):840-50. doi.org/10.1590/S0034-89102010000500009
18. Kann L, McManus T, Harris WA, et al. Youth Risk Behavior Surveillance - United States, 2017. MMWR Surveill Summ. 2018;67(8):1-114. doi:10.15585/mmwr.ss6708a1
19. Siegel MB, Naimi TS, Cremeens JL, Nelson DE. Alcoholic beverage preferences and associated drinking patterns and risk behaviors among high school youth. Am J Prev Med. 2011;40(4):419-426. doi:10.1016/j.amepre.2010.12.011
20. Sirirassamee T, Sirirassamee B. Health risk behavior among Thai youth: national survey 2013. Asia Pac J Public Health. 2015;27(1):76-84. doi:10.1177/1010539514548759
21. Jorge KO, Ferreira RC, Ferreira EFE, Kawachi I, Zarzar PM, Pordeus IA. Influência do grupo de pares e uso de drogas ilícitas entre adolescentes brasileiros: um estudo transversal. Cad Saude Publica. 2018;34(3):e00144316. doi:10.1590/0102-311X00144316
22. Raposo JCDS, Costa ACQ, Valença PAM, et al. Uso de drogas ilícitas e *binge* drinking entre estudantes adolescentes. Rev Saude Publica. 2017;51:83. doi:10.11606/S1518-8787.2017051006863
23. Silva-Oliveira F, Jorge KO, Ferreira e Ferreira E, Vale MP, Kawachi I, Zarzar PM. The prevalence of inhalant use and associated factors among adolescents in Belo Horizonte, Brazil. Cien Saude Colet. 2014;19(3):881-90. doi:10.1590/1413-81232014193.07542013
24. Raposo JCS, Costa AC, Valença P, Colares V, Franca C. Consumo de álcool em *binge* e uso de drogas ilícitas entre adolescentes escolares. Rev Aten Saude. 2016;4:27-31.
25. Nóbrega MPSS, Simich L, Strike C, Brands B, Giesbrecht N, Khenti A. Policonsumo simultâneo de drogas entre estudantes de graduação da área de ciências da saúde de uma universidade: implicações de gênero, sociais e legais, Santo André – Brasil. Texto Contexto Enferm. 2012;21:25-33. doi.org/10.1590/S0104-07072012000500003
26. Bonilha AG, Ruffino-Netto A, Sicchieri MP, Achcar JA, Rodrigues-Júnior AL, Baddini-Martinez J. Correlatos de experimentação

e consumo atual de cigarros entre adolescentes. J Bras Pneumol. 2014;40(6):634-42. doi: 10.1590/S1806-37132014000600007.
27. Backes DS, Zanatta FB, Costenaro RS, Rangel RF, Vidal J, Kruel CS, Mattos KM. Indicadores de risco associados ao consumo de drogas ilícitas em escolares de uma comunidade do sul do Brasil. Cien Saude Colet. 2014;19(3):899-906. doi: 10.1590/1413-81232014193.00522013
28. Iglesias V, Cavada G, Silva C, Cáceres D. Consumo precoz de tabaco y alcohol como factores modificadores del riesgo de uso de marihuana. Rev Saude Publica. 2007;41(4):517-22. doi.org/10.1590/S0034-89102007000400004.

29. Horta RL, Horta BL, Pinheiro RT, Morales B, Strey MN. Tabaco, álcool e outras drogas entre adolescentes em Pelotas, Rio Grande do Sul, Brasil: uma perspectiva de gênero. Cad Saude Publica. 2007;23(4):775-83. doi.org/10.1590/S0102-311X2007000400005
30. Farias Júnior JC, Lopes AS, Mota J, Hallal PC. Prática de atividade física e fatores associados em adolescentes no nordeste do Brasil. Rev Saude Publica. 2012;46(3):505-15. doi: 10.1590/S0034-89102012005000031
31. Humensky JL. Are adolescents with high socioeconomic status more likely to engage in alcohol and illicit drug use in early adulthood? Subst Abuse Treat Prev Policy. 2010;5:19. doi:10.1186/1747-597X-5-19
32. Brito ALS, Hardman CM, Barros MVG. Prevalência e fatores associados à simultaneidade de comportamentos de risco à saúde em adolescentes. Rev Paul Pediatr. 2015;33(4):423-30. doi.org/10.1016/j.rpped.2015.02.002

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