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Drug use and associated factors: a cross-sectional study with elementary school adolescents

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ABSTRACT

Aim: to estimate the prevalence of drug use among school adolescents and its association with sociodemographic and sexual variables. **Method:** a cross-sectional study conducted through a structured interview with 239 elementary school students from a public school in the state of Bahia, Brazil. Data were processed by the Stata program, version 12, and analyzed according to descriptive and inferential statistics. **Results:** the prevalence of adolescents who had used drugs in the last month was 25.92%. There was a statistical association between variable drug use and religious identification (PR=1.88 and 95%CI=1.03 - 3.41), study series (PR=2.0 and 95%CI =1.03 - 3.85) and work (PR=3.68 and 95%CI =1.08-12.54). **Conclusion:** high prevalence of drug use among school-age adolescents and its association with low schooling, lack of religious practice, and precocious work and sexual intercourse were identified.

Descriptors: Drug Users; Adolescent; Health Promotion.

INTRODUCTION

Drug use has always been a common factor in everyday life. However, since the twentieth century, it has been recognized as a public health problem, due to the impact of increase in consumption/dependence, multiuse and the intensity of its consequences[1].

It is a complex phenomenon that cannot just be explained by reference to the physiological effects, since it is the set of motivations and the consequences of use that transform any psychoactive substance into drug [2].

Although the first contact with drugs can occur at any stage of life, national[3] and international studies[4] indicate the onset of consumption occurs mainly in adolescence, the transition phase between childhood and exposure to adulthood. It is precisely during this period that hormonal, psychological and social changes take place which impel the individual to begin to impose their personality and identification patterns[5].

The loss of children's identity and childhood referral lead adolescents to identify themselves through peers as they begin to share group convictions and behaviors, such as drug use. The prevalence of drug use in this age group varies from 11.4% to 91.9%, depending on the region and the type of substance investigated, according to the latest surveys on drug use among adolescents in Brazil[3]. It is worth emphasizing that this behavior can have a detrimental impact on young people, such as low school achievement and the development of psychiatric disorders[6].

The tendency of reproducing patterns of behavior and the implications of drug use by adolescents require specific health prevention strategies for this population group. In addition, the heterogeneity of sociodemographic and health conditions has different repercus-

sions in the health-disease process. In view of these considerations, the hypothesis was elaborated that there is a risk relationship between drug use and sociodemographic and sexual aspects. In this context, the following research question was outlined: is there an association between drug use and sociodemographic and sexual activity variables in adolescents?

School is the main place that adolescents learn to replicate patterns of behavior amongst peers and gain entry to group affiliations, thus it also offers a crucial space for the early identification of problematic situations and strategies for planning health promotion and drug prevention. Based on this assumption, the following objective was defined: to estimate the prevalence of drug use among school-age adolescents and their association with sociodemographic and sexual activity variables.

METHOD

A cross-sectional study was linked to the project: "University and public school: looking for strategies to face the factors that interfere in the teaching / learning process", financed by the Research Support Foundation of the State of Bahia (Fapesb - from the Portuguese Fundação de Amparo à Pesquisa do Estado da Bahia).

This research was carried out in a public school from the state education network, located in a suburb of the city of Salvador, in Bahia, Brazil. This educational institution offers places for elementary school students from the sixth to the ninth grades, in morning, afternoon and evening sessions. Currently, it is a field of practice for nursing undergraduates by the extension project: "Curricular activity in community and society - An interdisciplin-

ary and transdisciplinary approach to health problems related to violence", thus providing an approximation with the place of study, and interaction between research and extension activities.

For the data collection, a stratified sample plan was calculated in proportion to the number of students per class of elementary school (276 students), which resulted in a minimum sample of 210 students, with a maximum sampling error of 2.35%. In each class, the minimum number of students suggested by the sample plan was included in the study. Inclusion criteria was defined as students between 10 and 19 years old and that were enrolled in and regularly attending the teaching institution. Students who missed two consecutive classes for days required for the data collection did not participate in the study. The resulting sample comprised of 239 students.

The data collection was carried out from October 2014 to January 2015 through the application of a block structured form, which includes: sociodemographic and sexual activity variables, and drug consumption in the last month. The application and completion of the form was carried out by members of the research team - undergraduate and graduate students of the Nursing School of the Federal University of Bahia. The entire research team was trained and received a manual with instructions for conducting the collection.

In order to meet the proposed objective, the drug consumption was classified as a dependent variable, with the categories "Yes" and "No", and, as independent variables, socio-demographic data (gender, race, age, religion, Study, family life and work) and sexual activity (sexual intercourse, age of first intercourse and use of condoms). As for the dependent variable, it was adopted the premise that the consumption of licit and illicit drugs is legally

prohibited for adolescents throughout Brazil. From this perspective, although there was a self-report of consumption of substances such as alcohol, inhalants, marijuana, cocaine and crack, by the students investigated, no distinction was made between the types of substances in the systematization and analysis of the data.

Data were processed by the Stata program, version 12, and analyzed initially by frequencies and percentage indices. To identify the association between the variables, the prevalence rate (PR) calculation and the respective 95% confidence intervals (95%CI) were applied.

The project was acknowledged and approved by the Ethics Committee of the Federal University of Bahia's Nursing School, opinion N°. 384208. Confidentiality, anonymity, privacy and freedom to participate or not, was assured throughout, according to the guidelines of Resolution N°. 466/12 of the National Health Council. The terms of Assent and Free and Informed Consent were signed by the participants and their legal representatives.

RESULTS

Regarding the sociodemographic characteristics of the participants (Table 1), there was predominance of adolescents aged between 10 to 14 years old (59.8%), male (54.0%), self--declared as Black (76.6%), and those who attended the classes in years 6 and 7 of elementary school (64.9%). The majority of the students did not work (95.4%), did not live with both parents (55.2%) and did not have any religion identification (53.1%).

The prevalence of drug use in the last month among the 239 students was 25.92%. The bivariate analysis (Table 1) indicated a

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statistically significant association between drug consumption, religious identification (PR = 1.88 and 95%CI = 1.03 - 3.41), study series (PR = 2.0 and 95%CI = 1.03 - 3.85) and work (PR = 3.68 and 95%CI = 1.08 - 12.54). There was also a positive association between drug use and males (PR = 1.14 and 95%CI = 0.63 - 2.04), Black ethnicity (PR = 1.20 and 95%CI = 0.59 - 2.43) and the age range between 15 and 19 years (PR = 1.10 and 95%CI = 0.61 - 1.98).

Regarding the sexual activity variables (Table 2), more than half (63.6%) of the adolescents had had no sexual experience. Among the adolescents who had had sexual intercourse (82.8%), the majority reported that their first experience of this occurred between the age of 10 and 14, and without the use of condoms (50.6%).

Regarding the bivariate analysis of the sexual variables (Table 2), a positive associa-

tion was identified, with statistical significance between drug use and first sexual intercourse. Another variable that showed association with drug use was lack of regular condom use.

DISCUSSION

The prevalence of drug use (25.92%) among Bahian adolescents identified in this study is similar to that found in studies carried out with adolescents in the North (24.0%)[7] and Southeast (23.6%) regions of Brazil[8]. At the international level, a survey of 26,503 Mexican adolescents, students of elementary and high school, showed a prevalence of similar consumption, ranging from 21.5% to 24.4%[9]. Another study carried out in Brazil also points out the growing consumption of psychoactive

Table 1. Prevalence ratio of drug use by school adolescents according to sociodemographic variables, Salvador, Bahia, 2016.

VARIABLES	N Total (%)	Drug consumption Yes (%)	Drug consumption No (%)	Prevalence ratio (PR)	CI (95%)
AGE					
15 to 19 years	96 (40,2)	26 (27,1)	70 (72,9)	1,1	0,61 – 1,98
10 to 14 years	143 (59,8)	36 (25,2)	107 (74,8)	1	
GENDER					
Male	129 (54,0)	35 (27,1)	94 (72,9)	1,14	0,63 – 2,04
Female	110 (46,0)	27 (24,5)	83 (75,5)	1	
RACE					
Black	183 (76,6)	49 (26,8)	134 (73,2)	1,2	0,59 – 2,43
Not Black	56 (23,4)	13 (23,2)	43 (76,8)	1	
STUDY SERIES					
6th/7th grade	155 (64,9)	47 (30,3)	108 (69,7)	2	1,03 – 3,85
8th/9th grade	84 (35,1)	15 (17,9)	69 (82,1)	1	
WORK					
Yes	11 (4,6)	6 (54,5)	5 (45,4)	3,68	1,08 – 12,54
No	228 (95,4)	56 (24,6)	172 (75,4)	1	
FAMILY CONVIVAL					
Others	132 (55,2)	32 (24,2)	100 (75,8)	0,82	0,45 – 1,46
Country	107 (44,8)	30 (28,1)	77 (71,9)	1	
RELIGION					
No	127 (53,1)	40 (31,5)	87 (68,5)	1,88	1,03 – 3,41
Yes	112 (46,9)	22 (19,6)	90 (80,4)	1	

Source: research data

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Table 2. Prevalence ratio of drug use by school adolescents according to sexual variables, Salvador, Bahia, 2016.

VARIABLES	N Total (%)	Drug comsuption Yes (%)	Drug consumption No (%)	Razão de Prevalência (PR)	IC (95%)
SEXUAL INTERCOURSE					
Yes	87(36,4)	37 (42,5)	50 (57,5)	3,75	2,05 – 6,87
No	152(63,6)	25 (16,5)	127 (83,5)	1	
AGE AT FIRST INTERCOURSE (N=87)					
10 to 14 years	72 (82,8)	30 (41,7)	42 (58,3)	0,81	0,26 – 2,49
15 to 19 years	15 (17,4)	7 (46,7)	8 (53,3)	1	
USE OF CONDOMS (N=87)					
No	43 (49,4)	20 (46,5)	23 (53,5)	1,38	0,58 – 3,24
Yes	44 (50,6)	17 (35,6)	27 (61,4)	1	

Source: research data

substances among school adolescents[5]. This trend of growth in teenage drug use was also observed in a survey conducted in the United States, which evaluated the consumption by schoolchildren between 2011 and 2015[4].

The study identified greater vulnerability in adolescents between the ages of 15 and 19, and a considerable frequency of use among adolescents between the ages of 10 and 14. The rates of early initiation into consumption were found by other drug surveys in Brazil[5,6]. Early initiation of drug use can lead to psychiatric disorders, sexually transmitted infections (STIs), liver and cardiovascular problems, as well as to potentiate family conflict, violence-related attitudes, drop out of school or difficulties in the school context, among other factors[8,10]. In addition to the harmful effects that drugs have on health, it is worth mentioning that it is a group whose consumption on a national level is illegal, drawing attention to the ineffectiveness of combat and drug repression in the country.

Regarding gender, in this study, there was a higher proportion of boys who consumed particular types of drugs. Other studies carried out in Brazil call attention to the current male predominance in the consumption of most psychoactive substances, and that this may be related to cultural factors, that normalise drug use by men, while the opposite applies to consumption by women[6,7]. However, the number of girls reporting consumption was also significant. The latest world report on drug use highlights the trend of increasing numbers of female users and warns that they are more prone to the effects of drunkenness, addiction and violence, and have reduced access to treatment services[11].

Another element of vulnerability regarding drug use refers to the positive association between Black participants and drug use. A recent study shows a higher prevalence of consumption among Black and low-income public school students, confirming theories of complexity relating to drug use, which goes beyond health issues, and is linked to contexts of individual and social vulnerability[3] . It is important to note that the predominance of Black adolescent users is consistent with the profile of the population of the city and the neighborhood where the study was conducted[12].

Regarding schooling, the data showed greater vulnerability to drug use among adolescents attending elementary school. This points to the repercussions of consumption on school performance, as has also been in-

dicated in other national[6] and international studies[13].

Despite the age range and the low level of schooling, there were records of adolescents who were working , and most of these reported drug use. Although the work of people in the early age promotes a certain autonomy and permissibility to the use of drugs, this insertion occurs in a precarious way, giving continuity to the cycle of poverty[8].

The study also shows that the majority of adolescents living with both parents reported drug use. This diverges from other research, which identified family structure as a protection factor for consumption[14].

A protective factor for consumption identified in this study was religious practice. A study carried out with 6,264 high school adolescents from public schools in the state of Pernambuco, Brazil, indicated that religious identification is a protective factor against drug use, since, in association with the general promotion of conservative attitudes, it inhibits health risk behaviours and interaction with deviant peers[15]. These data highlight the importance of respecting religious approaches, in their cultural plurality, in the school environment and in health care, as a strategy to prevent teenage drug use.

In addition to social aspects, the study indicates an association between drug use and sexual intercourse. A study aimed at evaluating psychoactive substance use and the patterns of sexual behavior in high school students, held in Rio Grande do Sul, Brazil, also discusses the modulating effect of psychoactive substance consumption on sexual practices, with evident prejudice in the adoption of safe behaviors in large part of the sexually active population[16].

It is noteworthy that adolescents who reported the age of first sexual intercourse as between 15 and 19 years old presented a higher proportion of drug use. The association between psychoactive substance use, early sexual initiation, and the adoption of risky sexual behaviors was identified among adolescents in a Mississippi public high school[17]. The approach to issues related to sexuality is fundamental in order to support adolescents and for the prevention of health problems.

The study also addresses the relationship between drug use and non-use of condoms. Another study, conducted in Feira de Santana, Brazil, identified a significant association between drug use and HIV infection in both genders[18]. International literature points to drug users as a population vulnerable to sexually transmitted infections (STIs) and sources of infection for the general population [19].

It is worth noting that students who did not report consumption also had a high prevalence of non-use of condoms. It can be inferred that, despite the modulating effect of the drugs on sexual practices, there is also the risk associated with age (20). In these cases, the individual is doubly exposed and vulnerable to STIs and unplanned pregnancy. This refers to the need for educational activities aimed at preventing drug use among adolescents, as well as reducing harm.

CONCLUSION

The present study identified a high prevalence of drug use among school adolescents with a statistical association between low schooling, lack of religious identification and precocity at work and sexual intercourse. The other variables point to the higher prevalence of consumption among Black adolescents, aged 15 to 19, who do not use condoms.

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Although the data is limited, because it is taken from a single educational institution, and because of the impossibility of identifying cause and effect, the study provides elements to support future interventions to prevent drug use by adolescents. The findings could guide the qualification of health professionals and education for the development of such actions. In the meantime, the Health in School Program (PSE – from Portuguese "Programa Saúde na Escola) is highlighted, a strategy that favors the articulation between health actions and education, which is essential for the prevention of drug use and abuse among school adolescents.

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Authors participation:

Mariana Matias Santos: general elaboration of the manuscript.

Rosana Santos Mota: data collection and analysis, general review of the manuscript.

Milca Ramaiane da Silva Carvalho: data analysis, contributions in the introduction and references.

Gleide Santos de Araújo: processing and statistical analysis of the data with contributions in the organization of the results.

Nadirlene Pereira Gomes: Critical review of the content and norms of the Portuguese language.

Jeane Freitas de Oliveira: orientation and critical review of the manuscript in general.

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