

Drug use prevalence at FEBEM, Porto Alegre

Prevalência do consumo de drogas na FEBEM, Porto Alegre

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Abstract **Introduction:** Different Brazilian and regional surveys detected a high prevalence of drugs use among children and adolescents, particularly among individuals under social risk conditions.

Objective: This study aimed to determine the prevalence of drug use among institutionalized children and adolescents; to assess the degree of associated use of illicit drugs with alcohol and tobacco; and to determine which is the gateway drug to illicit drug use.

Methods: A cross-sectional study was carried out in the Fundação Estadual do Bem Estar do Menor, in Porto Alegre (FEBEM) Southern Brazil. A questionnaire developed by the World Health Organization to determine prevalence of drug use was answered anonymously by a population of literate minors who were in FEBEM because of delinquency or due to social risk. The analysis aimed to describe the frequency of use of each drug and relate it to gender, age of beginning, and reason of institutionalization.

Results: A total of 382 participants answered the questionnaire. The substances most frequently used on an experimental basis were: alcohol (81,3%), tobacco (76,8%), marijuana (69,2%), cocaine (54,6%), inhalants (49,2%), anxiolytic drugs (13,4%), hallucinogens (8,4%), amphetamines (6,5%) and barbiturates (2,4%). Overall, around 80% of the respondents reported having used some illicit drug at least once in the past. Licit drugs, like alcohol and tobacco, were used mainly by males, while medicines were used mostly by females. Adolescents with delinquency records showed a significantly higher frequency of alcohol, marijuana, cocaine, and solvent use. The mean age of beginning was under 12 years for alcohol and tobacco use, under 13 years for marijuana and inhalants, and under 14 years for cocaine. Concomitant use of illicit and licit drugs was found to be high in this population.

Conclusions: A high prevalence of precocious drug use was found among institutionalized children and adolescent, with alcohol and tobacco being used earlier than illicit drugs. Delinquent males were more likely to have used illicit drugs.

Keywords Adolescents. Licit and illicit drugs. Substance abuse.

Resumo **Objetivo:** Identificar a prevalência do uso de drogas entre crianças e adolescentes institucionalizados e avaliar o uso associado das substâncias lícitas, álcool e tabaco, com drogas ilícitas e verificar qual a droga de uso inicial para o consumo das substâncias psicoativas ilícitas.

Métodos: Realizou-se um estudo transversal na Fundação Estadual do Bem-Estar do Menor do Rio Grande do Sul, na cidade de Porto Alegre. Um questionário elaborado pela Organização Mundial da Saúde, anônimo, sobre o uso de drogas e sua quantificação, auto-aplicado em salas de aula, foi respondido pela população de crianças e adolescentes alfabetizados que cumpriam medidas sócio-educativas ou medidas protetivas. A análise visou descrever o uso de drogas entre os dois subgrupos levando em conta gêneros e idades de início de uso.

Resultados: Os resultados foram obtidos a partir de 382 indivíduos. As substâncias mais experimentadas foram: álcool (81,3%), tabaco (76,8%), maconha (69,2%), cocaína (54,6%), solventes (49,2%), ansiolíticos (13,4%), alucinógenos (8,4%), anorexígenos (6,5%) e barbitúricos (2,4%). Em torno de 80% afirmaram ter usado experimentalmente alguma droga ilícita. As meninas usaram principalmente medicamentos e os meninos drogas

ilícitas, álcool e tabaco. As crianças albergadas por atos infracionais mostraram uso significativamente mais freqüente de álcool, maconha, cocaína e solventes. A idade de início do álcool e tabaco ocorreu antes dos 12 anos; maconha e solventes, antes dos 13 e cocaína antes de completar 14, em média. Verificou-se alta freqüência de uso concomitante de drogas lícitas e ilícitas por esta população.

Conclusões: A prevalência de experimentação e uso de drogas entre crianças e adolescentes institucionalizados é alta e precoce. As drogas lícitas foram usadas mais precocemente que as ilícitas. Indivíduos do sexo masculino e albergados por atos infracionais apresentam maior probabilidade de já terem utilizado drogas ilícitas.

Descritores Adolescentes. Drogas lícitas e ilícitas. Abuso de substâncias.

Introduction

The differences between population groups and their cultural contexts use to determine specific patterns of drug consumption.¹ Several studies have estimated the use of licit or illicit drugs in different places.²⁻⁴ Studies performed with first- and second-grade students of the public state schools in 10 Brazilian state capitals show that 65% of the students of the state of Rio Grande do Sul consume alcohol experimentally, 40% consume tobacco, 15% cannabis, 13% inhalants, 8% anxiolytics, 7% amphetamines and 4.5%, cocaine. This epidemiological survey has also evidenced a great difference in the frequency of use of each drug, ranging from 18 and 30% of the student population, according to the researched Brazilian capital. On the other hand, the age range also determines a difference in the frequency of drug consumption, as between 10 and 12 years of age there has been a lower use, whereas at 16 years of age students achieved their peak of experimental use.⁵

Surveys about drug use among street children, in non-governmental special shelters, in six Brazilian capitals, revealed that the experimental use of drugs, besides alcohol and tobacco, is near to 90%. In Porto Alegre, the use of inhalants prevailed (64%), followed by cannabis (39%) and cocaine (28%).⁶ On the other hand, children who wander on the streets for some hours per day, but who actually live with their families and attend school, stated having used illicit drugs in a frequency lower than 12%, i.e., near to what is reported by children who attend public schools.⁵ Street children, without contact with their families and not attending school, have four-fold rates of illicit drugs use, near to 68%.⁷

Children and adolescents at institutions such as Fundação Estadual do Bem Estar do Menor (FEBEM) – a Brazilian public institution for juvenile correction - are also in a social risk situation, although protected by the State. Up to the year 2002, FEBEM-RS took care of delinquent adolescents by means of institutionalization or semi-freedom, as well as sheltered abandoned or children and adolescents at social risk. All those adolescents received educational, health and psychological assistance. In cases in which psychiatric treatment was necessary, adolescents were referred to external assistance. The issue of drug use among institutionalized adolescents in Rio Grande do Sul is dealt with in workshops or debated in classrooms in the educational branch. In these activities, boarding school stu-

dents who attend the fourth up to the sixth grade are included.

In May 2002, in Rio Grande do Sul, FEBEM was closed according to the State Act n. 11,800, becoming the Foundation of Socio-educational Assistance (FASE-RS). FASE-RS is the agency responsible for the socioeducational measures of detention and semi-freedom, legally applied to adolescents who committed misdemeanors. At social-risk or abandoned children and adolescents currently serve protective measures by means of the Foundation of Special Protection under the responsibility of the State Secretary of Labor and Social Assistance.⁸ As our study was performed before the alteration FEBEM/FASE we chose to maintain the name FEBEM in this article. The results of this study are still applicable to the two groups of children and adolescents assisted by the above-mentioned institutions.

International researches have shown that the use of psychoactive drugs is related to delinquency.⁹⁻¹¹ On the other hand, adolescents with conduct problems have higher probability of using drugs, which contribute for the maintenance and escalation of delinquent activities.¹⁰ Although delinquent adolescents represent a vulnerable population and which is exposed to risk behaviors, few Brazilian studies have been published in order to determine the use of psychoactive drugs in this group.

However, specific studies directed to this population are still scarce and, therefore, more information is needed to know the extension of the use and abuse of drugs among institutionalized adolescents, as to support the educational approaches offered to this population. These data could also be used as an instrument to perform preventive activities and for the expansion of the knowledge about drug consumption among youngsters in a social risk situation in the Southern part of Brazil.

The present study aimed to estimate and compare the prevalence of licit and illicit drug consumption among children and adolescents under the protection of government institutions, due to delinquency or social risk in the city of Porto Alegre. We have also aimed to assess the associated use of licit substances, alcohol and tobacco, concomitantly with illicit drugs and to verify which was the gateway drug for the consumption of illicit psychoactive drugs.

Methods

This study was performed at Fundação Estadual do Bem Estar

do Menor do Rio Grande do Sul - (FEBEM/RS) in 1999, in the city of Porto Alegre, encompassing all the institutionalized population. All children and adolescents aging 10 to 20, literate and able to read and to fill in the questionnaires (n=402) participated in the study. Seven adolescents were excluded: five who were serving disciplinary measures and, therefore, unable of having contact with other people, and two of them who refused to answer the questionnaire. Thirteen incoherently answered questionnaires were excluded. Among the studied adolescents, a subgroup was serving socioeducational measures and lived in the detention facilities (n=252), and other one was under protection, living in shelter units (n=130).

We designed a cross-sectional study to assess the prevalence of drug consumption among children and adolescents at FEBEM/RS. The first studied factor was the use of licit and illicit drugs and the outcome was to live at FEBEM (shelter and infraction). The second factor was alcohol and tobacco and the outcome, illicit drugs. The used instrument was a closed, self-reported questionnaire with 42 questions, mostly pre-codified, proposed and developed by World Health Organization¹² - adapted for Brazil - to collect data among children and adolescents of developing countries and which had been already used in multicentric Brazilian studies.⁵ For each group of psychoactive substances the following categories were studied: use in lifetime, (at least once in lifetime or experimental); use in the year (at least once in the twelve months prior to the study); use in the month (at least once in the thirty days prior to the study); frequent use (six or more times in the thirty days prior to the study) and heavy use (six or more times in the thirty days prior to the study).^{5,6}

The data collection was performed from July up to middle August, 1999, by a team of five interviewers, medical students of the Medical School of the FFFCMPA, trained according to the rules of the Interviewer Manual used in the surveys of CEBRID (Brazilian Information Center on Psychotropic Drugs).^{5,6} The application of questionnaires was collectively performed in schoolrooms at FEBEM-RS by a researcher of the team, without the presence of the institution's teachers or monitors. The questionnaires were collected in a brown envelope. Before the application of the questionnaires subjects were instructed about the voluntary nature of the study and were assured secrecy and anonymity. The project was assessed and approved by the Ethical and Research Committee of FEBEM/RS.

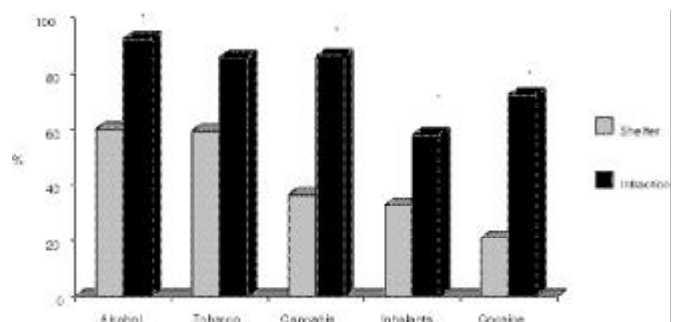
Chi-square test was used to assess the statistical significance

in the comparisons between the variables: gender, frequency and regularity of use, age of beginning and association of use of different drugs. ANOVA test followed by Student Newmann-Keuls test was used to compare all means of age of drug initiation. The assessment of association between the use of licit and illicit drugs included the calculation of the cross-product ratio (CPR) and its confidence intervals (CI). T test and CPR were used to verify the association of drug consumption and the fact of living at FEBEM. Calculated confidence intervals were 95%. P values <0.05 were considered as statistically significant. The software EPI-INFO, version 6.0, was used for these calculations.¹³

Results

We used data from questionnaires of 382 participant children, being 81.4% males (76% of delinquent subjects) and 18.6% females (81.7% sheltered). Age range of the interviewed varied from 10 to 12 years old (8%), 13 to 15 years old (24%), 16 to 18 years old (53%), and above 18 years old (9%). Six percent have not given this information.

Table 1 shows the prevalence of psychotropic substances according to the use categories for all asked substances. Lifetime use of licit drugs, alcohol and tobacco, was reported by 81.3% and 76.8% of interviewed children, respectively. Tobacco was more prevalent than alcohol in the categories of use in the year, in the month, and heavy use. Out of the interviewed, 80.9% claimed having already experienced any illicit drug. Among them, cannabis ranged first (69.2%), followed by cocaine (54.6%), inhalants (49.2%), anxiolytics (13.4%), hallu-



*Significant association (p=0.001)

Figure 1 - Comparison of prevalence of use in lifetime of psychoactive substances among children and adolescents living in shelter (n=130) and infraction (n=252) units at Fundação Estadual do Bem Estar do Menor of Rio Grande do Sul, in the year 1999.

Table 1 - Use of psychotropic substances by children and adolescents institutionalized at Fundação do Bem Estar do Menor of Rio Grande do Sul, according to the categories of use.

Psychoactive Substances	Use in lifetime n (%)	Use in the year n (%)	Use in the month n (%)	Heavy use n (%)
Alcohol	291(81.3)	216(60.3)	127(35.5)	48(13.4)
Tobacco	288(76.8)	247(65.8)	222(59.2)	130(34.6)
Cannabis	261(69.2)	179(47.5)	116(30.8)	48(12.7)
Cocaine	205(54.6)	122(32.5)	72(19.2)	33 (8.8)
Inhalants	183(49.2)	104(27.9)	58(15.6)	23(6.2)
Anxiolytics	49(13.4)	27(7.4)	16(4.3)	5(1.3)
Appetite suppressants	24(6.5)	11(2.9)	6(1.6)	1(0.3)
Barbiturates	9(2.4)	5(1.3)	3(0.8)	3(0.8)
Hallucinogens	31(8.4)	15(4.1)	7(1.9)	4(1.1)

cinogens (8.4%), appetite suppressants (6.5%) and barbiturates (2.4%). Regarding use in the year, in the month, and heavy use, the prevalence followed the same pattern of experimental use for most illicit drugs. Barbiturates (0.8%) prevailed over appetite suppressants (0.3%) only in the category heavy use.

Assessing the percentage of use in lifetime of the most used licit and illicit drugs by children, according to the conditions of living at FEBEM, we observed that children who had experienced more drugs were those living in juvenile detention houses, except for tobacco, which had not a significant difference (Figure 1).

In Table 2 we note that male children and adolescents committed more infractions. Furthermore, boys living at those houses experienced more drugs than sheltered ones. On the other hand, sheltered girls experienced more drugs than delinquent ones.

The first experience with tobacco or alcohol occurred between 10 and 12 years of age in most of the interviewed. Mean age of drug consumption onset was 11.8 ± 2.6 years for tobacco and 11.7 ± 3.3 years for alcohol, without significant difference between them. As to the first experience with illicit drugs, it was significantly more tardive, in the range from 13 and 15 years. Cannabis was used after tobacco (12.4 ± 2.3 years), followed by inhalants (12.9 ± 2.4 years) and by cocaine (13.4 ± 2.4 years) ($p < 0.001$) (Figure 2).

Data analysis allowed us to detect a positive association between the use of licit and illicit drugs. Of the interviewed who used alcohol at least once in lifetime, 84.6% claimed having already used tobacco, 80.1%, cannabis, 64.3% cocaine and 58.4% inhalants. The probability of an alcohol user using experimentally tobacco, cannabis or inhalants was 8- to 11-fold than that of alcohol non-users (Table 3).

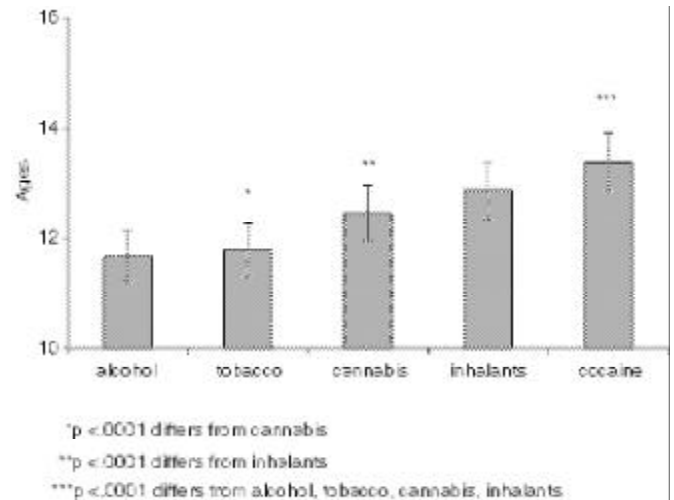


Figure 2 - Comparison of ages of beginning of use of drugs among children and adolescents at Fundação Estadual do Bem Estar do Menor of Rio Grande do Sul, in the year 1999.

Of those who reported tobacco use, in the same category, 90% had already used alcohol, 86.6%, cannabis, 69.5%, cocaine and 61.3%, inhalants. The chance of a tobacco user utilizing experimentally alcohol, cannabis, cocaine or inhalants was six- to ten-fold than that of a non-user of tobacco (Table 3).

The experimental use of alcohol was two-fold among males than among females (CPR=2.10; CI95%=1.09-4.04). Alcohol use prevalence among males and females for all categories of use in the previous year and month, and heavy use, had not a significant difference. Of alcohol users, 26.7% ranged 10 to 15 years of age, and 73.3%, in the age range from 16 to 20 years. Mean age for the initiation of alcohol use was 10.6 ± 2.7 years for females, and 11.9 ± 3.3 years for males. Females had three-

Table 2 - Distribution by gender and living condition of the most used psychoactive substances in lifetime among children and adolescents at Fundação do Bem Estar do Menor of Rio Grande do Sul, in the year 1999.

Psychoactive substance	Gender	Infraction	Living condition		CPR (CI 95%)
			Shelter		
Alcohol (n=291)	Male	204 (84.3)	38 (15.8)		14.87 (6.85-32.77)*
	Female	13 (26.5)	36 (73.5)		
Tobacco (n=288)	Male	201 (85.5)	34 (14.5)		22.57 (10.02-51.91)*
	Female	11 (20.8)	2 (79.2)		
Cannabis (n=261)	Male	205 (88.4)	27 (11.6)		3.42 (1.29-8.94)*
	Female	20 (69)	9 (31)		
Cocaine (n=205)	Male	170 (93.4)	12 (6.6)		26.56 (8.46-86.68)*
	Female	8 (34.8)	15 (65.2)		
Inhalants (n=183)	Male	133 (86.4)	21 (13.6)		16.63 (6.0-47.49)*
	Female	8 (27.6)	21 (72.4)		

*Cross-product ratio of a male child compared to a female one of having consumed once in lifetime the corresponding drug, being in infraction units compared to being in shelter units. Significant difference ($p < 0.001$).

Table 3 - Consume of alcohol and tobacco, cannabis and inhalants among children and adolescents at Fundação Estadual do Bem Estar do Menor of Rio Grande do Sul, in the year 1999, according to use in lifetime of alcohol or tobacco, * $p < 0.001$ for all associations.

Substance	Alcohol		CPR (CI 95%) alcohol	Tobacco		CPR (CI 95%) Tobacco
	users (n=286) (%)	non-users (n=66) (%)		users (n=269) (%)	non-users (n=83) (%)	
Alcohol	-	-	-	89.9	53.0	7.94 (4.22 -15.01)
Tobacco	84.6	40.9	7.94 (4.22-15.01)	-	-	-
Cannabis	80.1	25.8	11 (5.65 -21.64)	86.6	31.3	10.15 (5.64 -18.36)
Cocaine	64.3	16.6	8.76 (4.19 -18.74)	69.5	20.5	8.02 (4.30 -15.13)
Inhalants	58.4	12.2	10.29 (4.51-24.4)	61.3	19.3	6.42 (3.41-12.23)

fold chances of using alcohol before 12 years of age (CPR=2.96; CI95%=1.34-6.68).

Regarding problematic alcohol use by adolescents, 73% of the interviewed answered that they had already used alcohol up to drunkenness, once in their lifetime. Twenty per cent reported having consumed alcohol up to drunkenness in the month prior to the interview, without significant difference between genders. The interviewed reported other problems stemming from alcohol use, such as involvement in fights (64%), absence at school (19%), absence at work (8.5%), involvement in some kind of accident (5.5%) and traffic infraction when driving under the effect of alcohol (3.5%). More than 50% of the youngsters claimed that they had no family member with alcohol abuse, although 23.5% of them mentioned that their fathers drank excessively, followed by relatives (12%), siblings (6%) and mothers (5%).

Tobacco use at least once in lifetime, in the last year, and heavy use, was not significantly different between genders. Regarding the use in the previous month, however, males showed three-fold chances of using tobacco (CPR=2.6; CI95%=1.19-5.66). From those who claimed having already smoked, 62% had used tobacco for the first time under 12 years of age, and 38% after that age. Mean age for the initiation of tobacco use was 11.2 ± 1.6 years of age for females and 11.9 ± 2.8 years of age for males. Females had two-fold chances of smoking under 12 years of age than males (CPR=2.41; CI95%=1.11-5.35).

We noticed that the experimental use of cannabis was higher among males, who had four-fold chances of using the drug (CPR=4.54; CI95%=2.54-8.13). Among the interviewed who reported having already used cannabis there was no significant difference regarding gender and the use in the previous year, or month or heavy use. Seventy-eight percent of cannabis users were between 16 and 20 years of age and 21.6% were between 10 and 15 years of age. There was no significant difference between genders regarding age of initiation of cannabis use.

Experimental cocaine use was more prevalent among males, whose chance of using the drug was three-fold when compared to females (CPR=3.11; CI95%=1.73-5.62). There was no significant difference regarding the remaining categories of use. Eighty-three percent of cocaine users were in the age range between 16 and 20 years and 17%, between 10 and 15 years. Otherwise, gender did not interfere with the age of initiation of this drug.

The use of inhalants did not differ significantly between genders considering the parameters of use in lifetime, in the year and heavy use. We have also not observed significant differences between gender and age of beginning of use of inhalants. However, females had three-fold chances of using inhalants in the previous month than males (CPR=3.28; CI95%=1.34-8.06). Of inhalant users, 26.1% were in the age range between 10 and 15 years and 73.9%, between 16 and 20 years. Of inhalant users, 53.4% informed having bought it, 6.7% reported having it at home, and 26% received from 'friends'. Thirty-one percent had experienced inhalants for the first time at their friends' house and 26.8%, in some kind of bar or nightclub. The remaining users claimed not remembering the site or having used them in other sites.

Discussion

In this study, we verified that children from the state of Rio Grande do Sul, institutionalized at FEBEM, used licit drugs, alcohol and tobacco, in levels similar to other subjects of the same age range, be them street boys or students of state public schools.^{2,4,14} Of note, in spite of the fact that the Brazilian law forbids the selling and distribution of alcohol beverages and tobacco for minors^{5,14,15} most of interviewed children and adolescents had no difficulties to obtain these substances, as it was observed in other studies.¹⁴

Cannabis, cocaine and inhalants were the most used illicit drugs by these subjects, surpassing anxiolytics, hallucinogens, appetite suppressants and barbiturates. These rates are much higher than those presented by the state public school students⁵ or by street youngsters who attended school and have a reasonably structured family⁷. The high rate of experimental users of illicit drugs (80.9%) was similar to what was found in previous studies with Brazilian street youngsters^{6,7} and with young American inmates,¹⁶ which are populations deemed at risk for the use of drugs.

The use of illicit drugs does not occur because children are institutionalized, but it is previous to their entrance in the institution. As it was previously mentioned, FEBEM sheltered, in differentiated conditions, both youngsters who committed delinquent acts or infractions and those who were in conditions of family frailty, abuse or family abandonment. In this study we verified that the rates of use of illicit drugs in lifetime are significantly higher in youngsters submitted to socioeducational measures at FEBEM, i.e., among those who committed infractions or delinquent acts, and who in this moment would be receiving attention at FASE-RS. However, we cannot state if the infractions perpetrated were concomitant or occurred after drug initiation. In fact, this and other studies^{10,17-20} showed an association between the use of different drugs, licit and illicit, and delinquency or infractions. In a previous study, based on interviews performed with street children before any institutionalization, it was verified that social risk and abandonment by the family were related with delinquent activities and drug consumption.⁷ The use of drugs is part of a problem of delinquency and violent acts involving children and adolescents. It is still controversial whether the use of drugs is a cause or a consequence of social violence. However, there is consensus in that the activities to obtain money to buy drugs and drug traffic per se generate infracting acts and violent behaviors.²¹

According to the bi-directional model, the influence of drug consumption on juvenile delinquency is intense and earlier, and the effect of delinquency on the use of drugs is small but everlasting.¹¹ That is, it is possible that the involvement in delinquent behaviors, which led to the institutionalization and to the condition of family abandonment, increased the chances of drug initiation, which was perpetuated by the continuing of delinquency.^{10,11,18,19,22} On the other hand, despite the fact that drug use is less intense among children sheltered at FEBEM, these rates are still more elevated than among the student population of Porto Alegre. Oppositional behavior, aggressiveness, problems of emotional control and interper-

sonal relationships,^{20,23} sexual abuse, negligence, family conflicts, negative influences, such as drug-addicted parents, limited job opportunities, inadequate homes, crimes in the neighborhood^{9,16,23,24} could be related to the use of drugs by sheltered children. These characteristics of abuse and negligence, which favor the drug consumption, were reported by the children and the institution's researching team and health professionals. Therefore, the activities with adolescents seen at the units of FASE or the Foundation for Special Protection should take into account not only the rates of drug consumption, but also the possible causes for that use.

However, our data point to a difference between genders in the issue of juvenile delinquency and drug use, as females showed higher association of the use of licit and illicit drugs with the condition of being institutionalized, under the form of shelter. Despite the attempts of explanation, based on the different opportunities of initiation the use of drugs between genders,²⁵ it is recognized that the bi-directional model is only valid for males.¹¹ It is proposed, therefore, that more studies with female populations at risk should be performed to clarify this issue.

The associated use of multiple substances is increasingly more frequent among chemically-dependent subjects,^{2,18,19,22} what was also observed in this population. These data deserves future investigation. Our results show a strong association between the use of licit and illicit drugs. Alcohol users have ten- to eleven-fold risk of being users of inhalants or cannabis compared to adolescents who did not use alcohol. Besides, tobacco users have ten-fold risk of being cannabis users and both alcohol and tobacco use increase eight-fold the risk of using cocaine. Due to these strong associations, we could infer that the studied adolescents are or become polydrug users, as it was seen in studies performed in other countries.^{1,26,27} In those studies, there is more evidence of association between alcohol and cannabis use^{1,27} and tobacco or alcohol and cannabis²⁸ among student populations. Among adolescents at social risk, there is evidence of association of the use of licit drugs with the use of cocaine.

The earlier subjects start using alcohol or tobacco, the higher will be their vulnerability for the development of abuse or dependence of the same substances and the concomitant use of illicit drugs.^{14,17,18,29,30} As the studied youngsters had also demonstrated early consumption of licit drugs, in average at 11 years of age, we could verify that this use preceded that of illicit drugs, as well as that observed in other studies with ado-

lescents of populations at risk.^{10,20} According to the theory of drug consumption progression,³¹ adolescents become initially involved with alcohol, progress to cannabis and, in a third phase, to heavier drugs, such as cocaine.³¹⁻³³ Our findings also point out in this direction, but insert the use of inhalants after the initiation of cannabis and before the initiation of cocaine. There is still a wide discussion whether each of the used drugs functions as a risk factor for the use of multiple drugs or for the use of heavier drugs, or if the use of several drugs is related to the subjects' individual, biological, social or cultural factors.^{28,34}

Data of children at risk situations indicate that both situations are possible, but studies about the interaction and progression of the use of drugs in several populations should be performed in order to reach to any conclusion about the issue.

As this is cross-sectional study, it is not possible to establish a causal relationship between the uses of each drug in the group of delinquent or sheltered subjects. Future studies should clarify if, for these populations, there is a more important relationship between delinquency and the sequential use of drugs, what has been already tested in other countries.^{18,19}

The limitations of this survey are connected to the confidence in the self-reported data, reason why we made the decision of not asking questions which could embarrass the interviewed, keeping therefore a greater compliance to the research. We have not, thus, obtained data related to the socioeconomic level, family situation and dynamics, use of drugs by family members and easiness of access to drugs. The interviewed also were not questioned about the time of internment and the quality of the committed offense.

The applicability of the study is based on the observations that the institutionalized youngsters revealed having started substance use and delinquent behaviors at early age and, therefore, that preventive programs should start early, before ten years of age and providing adequate conditions to their living environments. The need of delaying the use of alcohol and tobacco should be emphasized as these drugs were first used and are considered as the gateway for other drugs. Therefore, the prevention could control the initial and regular use of both licit and illicit drugs and could diminish the use of multiple drugs.

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