



CONSUMPTION OF ILLICIT DRUGS IN RURAL SETTLEMENTS

CONSUMO DE DROGAS ILÍCITAS EM ASSENTADOS RURAIS

CONSUMO DE DROGAS ILÍCITAS EN ASENTADOS RURALES

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ABSTRACT

Objective: to estimate the prevalence and factors associated with illicit drug use among residents of a rural settlement. **Method:** a population-based, cross-sectional study, of 172 settlement individuals in the Central-West Region of Brazil. The instrument Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was used and a multivariate analysis was performed by Poisson regression. **Results:** the use of illicit drugs in life was reported by 9.9% of the participants. Males, family dysfunction, and tobacco use were factors associated with illicit drug use ($p < 0.05$). **Conclusion:** the results of this study evidenced the need for health education actions and public policies to prevent harm. **Descriptors:** Street Drugs; Rural Settlements; Family Relationships.

RESUMO

Objetivo: estimar a prevalência e os fatores associados ao consumo de drogas ilícitas em residentes de um assentamento rural. **Método:** estudo transversal, de base populacional, realizado em 172 indivíduos de assentamento na Região Centro-Oeste do Brasil. Foi utilizado o instrumento *Alcohol, Smoking and Substance Involvement Screening Test* (ASSIST) e foi feita análise multivariada por regressão de Poisson. **Resultados:** o uso de drogas ilícitas na vida foi reportado por 9,9% dos participantes. Sexo masculino, disfuncionalidade familiar e uso de tabaco foram fatores associados ao uso de drogas ilícitas ($p < 0,05$). **Conclusão:** os resultados deste estudo evidenciaram a necessidade de ações de educação em saúde e de políticas públicas para a prevenção de danos. **Descritores:** Drogas Ilícitas; Assentamentos Rurais; Relações Familiares.

RESUMEN

Objetivo: estimar la prevalencia y los factores asociados al consumo de drogas ilícitas en residentes de un asentamiento rural. **Método:** estudio transversal, de base poblacional, realizado en 172 individuos de asentamiento en la Región Centro-Oeste de Brasil. Se utilizó el instrumento *Alcohol, Smoking and Substance Involvement Screening Test* (ASSIST) y se realizó un análisis multivariado por regresión de Poisson. **Resultados:** el uso de drogas ilícitas en la vida fue reportado por el 9,9% de los participantes. El sexo masculino, la disfuncionalidad familiar y el uso de tabaco fueron factores asociados al uso de drogas ilícitas ($p < 0,05$). **Conclusión:** los resultados de este estudio evidenciaron la necesidad de acciones de educación en salud y de políticas públicas para la prevención de daños. **Descriptores:** Drogas Ilegales; Asentamientos Rurales; Relaciones Familiares.

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INTRODUCTION

The global burden of alcohol and illicit drug use is equivalent to 5.4% of all diseases.¹ In the Brazilian population, illicit drug use has been considered a cause of morbidity and mortality, mainly due to non-transmissible chronic diseases, infectious diseases, mental disorders and physical and psychic dependence.² The prevalence of drug use is higher in certain key populations, such as adolescents and young adults,³⁻⁴ patients with mental disorders and individuals in rural settlements.⁵⁻⁶ In this sense, drugs are understood as any natural or synthetic substance, that can be inhaled, ingested or administered, and which causes changes in organic structures and functions, modifies behavior, and generates dependence.⁷

Investigations have shown that populations of rural settlements are vulnerable to consumption and problems related to illicit drug use when compared to the urban population.^{6,8} In general, there are populations with low income and education, with poor working conditions and difficulties in accessing health services.⁹⁻¹⁰ In Brazil, a population-based study in rural populations estimated prevalences of cocaine and crack use in life of 1.8% and 0.8%, respectively.¹¹

Illicit drug use in both urban and rural areas, is consistently higher among the 25-34 age group; Male people; Individuals who are more educated and who do not live with the partner. Regarding race / color, only marijuana presents percentage differences, being more used among individuals who declare themselves to be of black race/color, while among other illicit drugs, there are no relevant differences.¹¹

Among the researches that discuss the use of illicit drugs in rural settlements, there is a consensus on the coexistence of illicit drug use in rural settlements and the problems resulting from this behavior, especially, those carried out in countries such as Brazil, the United States and Costa Rica.¹¹⁻³

In view of the above, it is relevant to research the pattern of drug use in vulnerable populations, such as rural settlements, in order to identify variables that predict the occurrence of this phenomenon, thus, enabling, the elaboration of health policies and actions that contribute to the Prevention of drug abuse and quality of information. This study aims to estimate the prevalence and factors associated with illicit drug use among residents of a rural settlement.

METHOD

A cross-sectional, population-based study conducted with residents of a rural settlement, located in a peri-urban area, in the Southeast region of the State of Goiás, Central-West Brazil. Data were collected between September and November 2014.

The estimated total population of the settlement was approximately 250 people (50 children or adolescents and 200 adults or elderly). In this study, individuals aged 18 years or more and residents of the settlement were included for at least six months. Those individuals who were not in their residence for up to three visits of the researcher at different times were excluded.

The data collection took place after the consent of the leaders and residents of the settlement. Participants were recruited through home visits, conducted in the morning and afternoon periods by trained interviewers. After authorization to enter the residence, the individuals who agreed to participate, through the signing of the Informed Consent Term (ICT), were interviewed, face to face, in their own home.

The instrument *Alcohol, Smoking and Substance Involvement Screening Testing* (ASSIST) was used to trace illicit drug use in the settlers.¹⁴ This instrument has good specificity and sensitivity for the screening and early detection of drug use, such as marijuana and cocaine, By means of eight questions, which deal with the frequency of use, problems related to use, concern about people close to the user, impairment in the execution of expected tasks, unsuccessful attempts to cease or reduce use, compulsion and use by via injectable.¹⁴ Scores from zero to three identify that the individual is at low risk of presenting problems related to the use of substances; average score, between four and 26, are indicative of harmful or problematic use of substances; And a score above 27, for any substance, suggests that the person is at high risk of dependence.¹⁴

To collect the independent variables, a structured questionnaire was applied on sociodemographic characteristics and potential predictors of illicit drug use. In addition, the *Adaptation, Partnership, Growth, Affection, Resolve* (APGAR of Family) instrument was applied to evaluate the dysfunctionality of the family nucleus of the participants.¹⁵

The dependent variable in this study was the use of illicit drugs (marijuana, cocaine / crack, inhalants and lysergicacid diethylamide

- LSD) at any time in life. The independent variables analyzed were: age (continuous variable); Monthly family income (Real: <R\$ 724.00 or R\$ 725.00-1.000,00 and> R\$ 1,000.00); Sex (female or male); Schooling ($\geq$ 8 years or <8 years of formal study); Self-reported skin color (white or non-white); Religion (none or evangelical or catholic); Regular physical activity (no or yes) for an individual who reported a minimum of 150 minutes of moderate physical activity (eg walking) or 75 minutes of rigorous physical activity (eg running) per week; Mental disorder doctor (no or yes); Access to the Basic Health Unit (BHU) in the last seis months (no or yes); Consumption of alcohol (no or yes) and / or tobacco (no or yes) in the last three months and family dysfunction (no or yes).

The family APGAR, recommended by the World Health Organization and the Ministry of Health,^{15,17} was used, which allows the evaluation of the satisfaction with the family members' relationship, measuring five aspects related to family functionality: Adaptation; Partnership; Growth; Affection and Resolve. It is an easy-to-use tool, brief and an adviser in the early identification of family dysfunction, with a view to the adequacy of the care plan through more effective interventions. The scores ranged from zero to ten points, classifying family functionality in high family dysfunction (scores ranging from zero to four); moderate family dysfunction (scores five to six) and good family functioning (scores of seven to ten).^{15,17} In this study, family dysfunction was defined as a score of zero to six points in the family APGAR.

Data were analyzed using the Stata Software Package, version 12.0. Continuous variables were expressed as means and standard deviation (SD) and categorical variables, in simple frequencies. Prevalences of illicit drug use were estimated with 95% confidence intervals (95% CI). Multivariate analysis, using Poisson regression, was performed to analyze factors associated with illicit drug use. Only variables with p value <0.10 were included, in the multivariate model, in the univariate analysis. The chi-square test was used to verify the differences between the proportions, and values of p <0.05 were Considered statistically significant.

This study was approved by the Research Ethics Committee of the Federal University of Goiás (protocol 162/2012). The consent of all participants was obtained.

RESULTS

Of the 84 families in the settlement, 200 residents were considered potentially eligible. Of these, seven refused to participate and 21 were not found in their respective residences. Thus, the study sample consisted of 172 settlers (86.0% of the target population). The mean age and income of the participants were 44.0 years (SD $\pm$ 14.26) and R\$ 1,016.30 (SD $\pm$ 470.00), respectively, and 52.3% were men.

The prevalence of illicit drug use in life was 9.9%, which corresponds to 17 individuals, with (95% CI: 6.3-15.3%). Table 1 presents the prevalence and associated factors.

Table 1. Factors associated with illicit drug use ever living by residents of a rural settlement, Central Brazil, 2014.

Variables	Illicit drug use sometime in life		PR not adjusted (IC 95%)	Valor de p	PR adjusted(b)(IC 95%)	Value of p
	n/Total (a)	%				
Age (years)			0.97 (0.95-1.00)	0.05	0.97 (0.94-1.00)	0.08
Sex						
Female	3/82	3.7	1.00		1.00	
Male	14/90	15.6	4.25 (1.26-14.31)	0.02	3.43 (1.10-10.97)	0.04
Skin colour (autorreffered)						
White	5/53	9.4	1.00			
Not white	12/118	10.2	1.07 (0.39-2.91)	0.88		
Income (real R\$)						
< R\$ 724,00	4/66	6.1	1.00		1.00	
R\$725,00-1.000,00	8/47	17.0	2.80 (0.89-8.81)	0.07	1.65 (0.45-6.06)	0.44
> R\$ 1.000,00	5/56	8.9	1.47 (0.41-5.24)	0.55	1.00 (0.30-3.28)	0.99
Education (anos)						
> 8	9/81	11.1	1.00			
< 8	8/91	8.8	0.79 (0.31-1.95)	0.61		
Religion						
None	3/18	16.7	1.00			
Evangelical	6/73	8.2	0.49 (0.13-1.79)	0.28		

Catholic	8/81	9.9	0.59 (0.17-2.02)	0.40		
Regular physical activity practice						
Yes	6/57	10.5	1.00			
No	11/115	9.6	0.90 (0.35-2.33)	0.84		
History of mental disorders						
No	16/161	9.9	1.00			
Yes	1/11	9.1	0.91 (0.13-6.31)	0.92		
Access to BHU						
Yes	11/139	7.9	1.00		1.00	
No	6/33	18.2	2.29 (0.91-5.77)	0.08	1.56 (0.54-4.54)	0.40
Family dysfunction						
No	12/153	7.8	1.00		1.00	
Yes	5/19	26.3	3.35 (1.31-8.50)	0.01	2.78 (1.38-5.60)	< 0.01
Alcohol consumptionc						
No	8/122	6.6	1.00		1.00	
Yes	9/50	18.0	2.74 (1.12-6.72)	0.03	2.30 (0.98-5.42)	0.06
Tobacco consumptionc						
No	9/136	6.6	1.00		1.00	
Yes	8/36	22.2	3.35 (1.39-8.10)	< 0.01	2.54 (1.10-5.89)	0.03

(a)To valid answers. (b) Adjusted for age, income, sex, access to UBS, family dysfunction, alcohol and tobacco consumption. (c) Last three months. PR: prevalence ratio. 95% CI: 95% confidence interval. UBS: Basic Health Unit.

In the multivariate analysis, the following factors were independently associated with illicit drug use in life: male sex (prevalence ratio - adjusted PR: 3.43; 95% CI: 1.10-10.97); use of tobacco (adjusted PR: 2.54; 95% CI: 1.10-5.89) and family dysfunction (adjusted PR: 2.78; 95% CI: 1.38-5.60).

DISCUSSION

The results of the current study point to a prevalence of exposure of the rural population to the use of illicit drugs, which indicates that the problem is present in this population, raising vulnerability in this social space. In addition to associating variables relevant to the pattern of illicit drug use, such as male sex, alcohol and tobacco use, especially to our best knowledge, this research innovates by evaluating and revealing the association of the influence of family relationships with exposure to the use of illicit drugs. Thus, rural settlers, with family dysfunction, are more likely to have used illicit drugs in their lifetime.

Illicit drug use was reported by 162 million to 324 million people worldwide in 2012, which corresponds to 3.5% - 7.0% of the population aged 15-64 years. The death rate related to illicit drug use in 2012 was 40 / 1,000,000. It is also worth noting that marijuana represents the most widely used drug in the world, reaching between 125 and 227 million consumers (2.7 to 4.9% of the population aged 15-64).¹⁸

A survey conducted in Brazil revealed that approximately 15.6%, of 7,852 individuals interviewed, reported having used at least

one illicit drug at some time in their lives. This same research showed higher rates of illicit drug use in the urban area than in rural areas, including crack and cocaine, with a percentage of 2.9% and 8.1% in the urban area and 0.8% And 1.8% in rural areas, respectively.¹¹

In the studied sample, there was a greater association of illicit drug use ever in males. Globally, the consumption of illicit drugs between men and women varies from country to country, but in general, the predisposition to use an illegal substance is two to three times greater in males.¹⁹ When it comes to residents of rural areas, the results are not different, as shown in a study conducted in rural areas of the United States, where the dependence of licit and illicit drugs is more present in men compared to women.¹²

This study also found that the existence of familial dysfunctionality exposes the individuals to the high risk for the use and dependence of illicit drugs, being a result common to another investigation.²⁰ Some familiar factors, such as lack of structure, high rates of Conflicts, drug use by family members and low socioeconomic status have been associated with illicit drug use.²¹ In this context, it is suggested that an assessment of family dynamics as a mediator of substance use in rural populations is suggested.

In relation to tobacco consumption, individuals using this substance were considered more likely to use illicit drugs, corroborating previous research.^{19,22} Tobacco use has a high prevalence among residents of rural areas, 8.23 emphasizing that this

Predisposition increases the chance of using an illegal substance by 37 times.²⁴ The association of illicit drug and tobacco use increases the risks to physical and mental health, increases the chances of dependence of these substances as well as of dysfunctions in social and family relations and Involvement with violent behavior.^{20,25-6}

This study presents some limitations, which must be considered when interpreting the results. The cross-sectional nature of the study does not allow the establishment of temporality or causality relationships. In addition, the results cannot be generalized to all residents of rural settlements in Brazil, since it was considered a specific community in the State of Goiás. Nature of data collection, based on self-report, which may compromise the reliability of the results obtained.

Finally, the study did not evaluate the influence of the proximity of the urban environment of the settlement to illicit drug use, a risk factor for substance use in rural populations.¹¹ Nevertheless, this research has evidenced some factors that increase the vulnerability of rural settlers to experimentation of illicit drugs, mainly family dysfunctionality and the correlation with tobacco use.

CONCLUSION

The prevalence of drug use in life was high in the settlers investigated, especially, in males, who used tobacco and had family dysfunction. The results of this study contribute to increase knowledge about the pattern of illicit drug use among residents of rural settlements and show the need for health education actions and public policies to prevent the use of these substances in these populations. Thus, further studies are needed to assess the use and impact of drugs on rural populations.

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Silva AC da, Denardi TC, Silva PCD et al.

Consumption of illicit drugs in rural...

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