DRUG ADDICTION AND ASSOCIATED FACTORS AMONG PEOPLE WHO ATTENDED A VOLUNTARY COUNSELING AND TESTING CENTER IN SOUTHEASTERN BRAZIL

USO DE DROGAS E FATORES ASSOCIADOS ENTRE AS PESSOAS QUE FREQUENTARAM UM CENTRO DE ACONSELHA-MENTO E TESTES VOLUNTÁRIOS NO SUDESTE DO BRASIL

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Introduction: Volunteer Counseling and Testing centers (VCTs) are important facilities in the fight against HIV/AIDS in Brazil. Objective: The main objective of this study was to describe the profile of people who attended the VCT of the School Health Center of the Ribeirão Preto School of Medicine of the University of São Paulo (VCT-CSE), highlighting the prevalence of drug use among them. The associations between sociodemographic and behavioral characteristics of the participants and drug use were also studied. Methods: This is a descriptive cross-sectional study using secondary data collected from sheets registered in the VCT-CSE with information about all 424 individuals who have undergone the service from January 1st to December 31st, 2016. Results: Attendees tend to be single (58.5%), white (59.2%), the vast majority (83.9%) had at least 8 years of formal education, and 56.5% were in the age group 25 to 35 years old. Occasional or regular use of alcohol was reported by 56.6% of the attendees. Marijuana is the most used illicit drug, followed by inhaled cocaine. Regular use of alcohol was higher among students, divorced people, and those with many sexual partners in the last 12 months. Marijuana usage was higher among younger individuals (15.4%), those who had 10 or more sexual partners in the last 12 months (33.3%) and alcohol users. **Conclusion**: Alcohol and marijuana are the most frequently reported drugs used by attendees, and the number of sexual partners is associated with the use of these drugs.

Keywords: Health Services. Drug Utilization. Marijuana Use. Alcohol Drinking. Primary Health Care.

Introdução: Os Centros de Testagem e Aconselhamento (CTA) são importantes para o combate ao HIV/AIDS no Brasil. Objetivo: O objetivo principal deste estudo foi descrever o perfil das pessoas que frequentaram o CTA do Centro Escolar de Saúde da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo (CTA-CSE), destacando a prevalência do uso de drogas entre elas. As associações entre as características sociodemográficas e comportamentais dos participantes e o uso de drogas também foram estudadas. **Métodos**: Este é um estudo transversal descritivo usando dados secundários de planilhas de registros de atendimentos do CTA-CSE, com informações sobre todas as 424 pessoas atendidas de 1 de janeiro a 31 de dezembro de 2016. Resultados: As pessoas atendidas eram em maior parte solteiras (58,5%), brancas (59,2%), e a grande maioria (83,9%) tinha 8 anos de educação formal, 56,5% estavam na faixa etária de 25 a 35 anos. Uso ocasional ou regular de álcool foi relatado por 56,6% dos participantes. A droga ilícita mais usada foi a maconha (13,5% usavam ocasionalmente ou regularmente). Uso regular de álcool foi alto entre os estudantes, pessoas divorciadas e aquele com muitos parceiros sexuais nos últimos 12 meses. Uso de maconha foi maior entre os jovens adultos (15,4%), aqueles com 10 ou mais parceiros sexuais nos últimos 12 meses (33,3%) e usuários de álcool. Conclusão: Álcool e maconha são as drogas mais frequentemente reportadas pelos usuários do CTA-CSE, e o número de parceiros sexuais é associado ao uso destas drogas.

Palavras-chave: Serviços de Saúde. Utilização de drogas. Utilização de marijuana. Consumo de álcool. Atenção Primária à Saúde.

Introduction

At the end of the 1980s, to curb the HIV epidemic, the Brazilian Health Ministry created an anonymous testing system, which included the offer of free serological tests as an important strategy for AIDS control. The main goal was to reach out at risk individuals for infection, such as homosexuals, sex workers, and injecting drug users. Currently, these facilities are named Voluntary Counseling and Testing (VCT) center1.

In Brazil, marked changes in the AIDS epidemic were noted in the second half of the 1990s, including an increase in the number of new cases among heterosexuals, women, low-income people, and those living in medium-sized municipalities2. The VCTs then expanded the availability and accessibility of their services to the general population and became a reference for universal access to testing, counseling and prevention of HIV and other sexually transmitted infections

(STI). Since 2004, the serological tests offered by the VCTs included viral hepatitis. Thus, the VCTs play a key role in health promotion, prevention, and early diagnosis of infections of sexual transmission3.

According to the Brazilian Ministry of Health, counseling is an educational process that can be developed through an interactive dialogue based on a relationship of trust between the user and the VCT health care provider⁴. The goal is to allow individuals to assess their risks and make decisions about STI prevention. In this context, the counseling aims are to promote stress level reduction, safer practices, greater adherence to treatments, and treatment of sexual and injecting drug partners. The target audience of VCTs are the vulnerable population to STI, HIV/AIDS, or viral hepatitis infection and their sexual partners, injecting drug users, persons who are willing to be tested for HIV (infected or uninfected) or for the diagnosis of hepatitis, and people who seek help due to probable risk situations^{3,4}.

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Several studies, both in Brazil and around the world, have shown that through VCT activities, it is possible to monitor the serological status, sociodemographic profile, and behaviors related to HIV/AIDS and other STIs in the population served, thereby improving disease prevention and control⁵⁻⁷.

Accessing the use of drugs among VCT users is important since legal drugs such as alcohol and illegal drugs worsen the harm by reducing the capacity to make judgments or take decisions in risk situations. In addition, in a study describing the population tested for HIV at VCTs in São Paulo State, the prevalence of HIV infection among drug users was almost four times the prevalence of non-users.

At the moment of this writing, there were 442 VCTs in Brazil (http://www.aids.gov.br). Of them, 138 were in the Brazil's Southeast region and 78 in the State of São Paulo. In the municipality of Ribeirão Preto, Sao Paulo State, Southeast Brazil, there were five VCTs dispersed in the five city's regions, including the VCT of the School Health Center (VCT-CSE) of the Ribeirão Preto Medical School of the University of São Paulo (FMRP-USP).

The main objective of this study was to describe the profile of people who attended the VCT of the School Health Center of the Ribeirão Preto School of Medicine of the University of São Paulo (VCT-CSE), highlighting the prevalence of drug use among them. The associations between sociodemographic and behavioral characteristics of the participants and drug use were also studied.

Methods

Participants, Study Design, and Sampling Methods

This was a retrospective cross-sectional survey of all consecutive individuals presenting to the VCT-CSE from January 1st to December 31st, 2016. As a routine procedure at VCT-CSE, all individuals who attend the facility are registered and are required to answer a face-to-face questionnaire performed by a trained healthcare provider. The study instrument included demographic questions, reasons for visiting the VCT, and epidemiological antecedents, such as the use of alcohol, marijuana, inhaled cocaine, injected cocaine, crack, amphetamines, heroin, and other drugs. The response set allowed answers such as "never used", "no longer use", "occasionally use" and "regularly use".

Settings

Ribeirão Preto is the eighth largest municipality in the state of São Paulo, with more than 600,000 inhabitants. The School Health Center (CSE) concentrates a large part of the assistance and research activities of the Ribeirão Preto Medical School (FMRP-USP), of the Ribeirão Preto Nursing School (EERP-USP), of the Ribeirão Preto School of Dentistry (FORP-USP) and of other units of the Campus of the University of São Paulo (USP) located in the municipality. It is estimated that in 2016, 178.754 inhabitants lived in the geographic area covered by the CSE (data from Municipal Health Secretariat). The CSE plays an important role in developing new knowledge and technologies in the context of providing health care to individuals, families, and the community in its area of coverage. Attendance at the VCT-CSE may imply the offer of anti-HIV serological testing, and this test is strictly voluntary.

Data Analysis

In a first step, all variables of interest were tabulated for identification of inconsistencies and missing information. In these cases, the correspondent instruments were verified, and possible typing errors were corrected.

Associations between the use of the most prevalent drugs and different variables were tested by Fisher's exact tests. The selection of a subset of variables that best discriminate between individuals according to the use of the most prevalent drugs was based on conditional inference tree statistical modelling, a non-parametric class of multivariate regression model that embeds tree-structured regression models into a well-defined theory of conditional inference procedures 10. The conditional inference trees were fitted with the package "party" of the software R version 3.4.3.

The research was approved by the Ethics Research Committee of the CSE of the FMRP-USP (protocol number 2.104.658L).

Results

From January 1st to December 31st, 2016, 424 individuals were attended the VCT-CSE. Of those, 247 (58.3%) were males and 41.7% were females. Attendees tended to be single (58.5%), white (59.2%), the vast majority (83.9%) had at least eight years of formal education, 72.9% were employed, and 56.5% were in the age group of 25 to 35 years old. Overall, 62.5% reported drug use in the last 12 months, among whom 67.6% were male and 55.4% were female. The most common reason for visiting the VCT was to know the serological status (39.2%) followed by exposure to a high-risk situation (37.1%). A total of 77.1% of the subjects attempted the VCT for the first time. Only two attendees considered themselves sex workers, and two belonged to the confined population (Table 1).

Table 1. Demographics characteristics of the attendees at VCT-CSE, reasons for the search the facility and how users hear about the service. Ribeirão Preto, Brazil, 2016.

	(Total n=424)	Men (n = 247)	Women (n = 177)
	n	%	n %	n %
Age group < 26 years 26 to 35 years 36 to 45 years > 45 years	122 155 61 84	28.8 37.0 14.4 19.8	68 27.5 111 44.9 27 10.9 41 16.6	54 30.5 46 26.0 34 19.2 43 24.3
Marital status Single Married / with partner	248 104	62.3 26.1	152 65.0 57 24.4	96 58.5 47 28.7
Divorced / separated Widower <i>Not informed</i>	38 08 <i>26</i>	9.6 2.0	22 9.4 03 1.2 13	16 9.8 05 3.0 13
Skin color White Black Asian Mullato Not informed	236 45 07 111 25	59.2 11.3 1.7 27.8	142 60.7 24 10.3 04 1.7 64 27.3	94 57.0 21 12.7 03 1.8 47 28.5
Education (years) Illiterate 1 to 3 years 4 to 7 years 8 to 11 years > 11 years Not informed	03 08 53 167 165 28	0.8 2.0 13.4 42.2 41.7	02 0.9 03 1.3 32 14.0 96 42.1 95 41.7	01 0.6 05 3.0 21 12.5 71 42.2 70 41.7
Occupation Employed Unemployed Retired	266 49 10	62.7 11.6 2.4	180 72.9 11 4.5 08 3.2	86 48.6 38 21.5 02 1.1

Student	99	23.4	48	19.4	51	28.8
Sexual partners (last 12 months)						
None 1	14 190	3.4 46.1	04 100	1.7 41.7	10 90	5.8 52.3
2	63	15.3	36	15.0	27	15.7
3 to 5 6 to 9	89 24	21.6 5.8	59 17	24.6 7.1	30 07	$\frac{17.4}{4.1}$
10 or more Not informed	32 12	7.8	24 <i>07</i>	10.0	08 <i>05</i>	4.7
Reason for the search						
To know the serological sta- tus	164	39.2	88	35.8	76	44.2
Exposure to risk situation	155	37.1	100	40.6	55	32.0
Referred by a health service	48	11.5	28	11.4	20	11.6
Suspected STD	16	3.8	09	3.8 2.4	07	4.1 2.4
Prevention Immunological window	10 08	2.4 1.9	06 04	1.6	04 04	2.4
Prenatal care	05	1.2	4	1.6	01	0.6
Referred by blood bank	02	0.5	0	0	02	1.2
Admission to employment	02	0.5	02	0.8	0	0
Symptoms re- lated to AIDS	01	0.2	01	0.4	0	0
To check pre- vious result	01	0.2	01	0.4	0	0
Testing for hepatitis	01	0.2	01	0.4	0	0
Home contact for hepatitis	01	0.2	01	0.4	0	0
Prenuptial ex- amination	01	0.2	-	-	01	0.6
Other Not informed	03 <i>06</i>	0.7	01 <i>01</i>	0.4	02 <i>05</i>	1.2
How did you hear about the CTA service?						
Health Service / Health pro- fessional	188	46.9	102	43.4	86	51.8
Friends / Ser- vice users	143	35.7	82	34.9	61	36.8
Internet	36	9.0	26	11.6	10	6.0
Promotional material	15	3.8	13	5.5	02	1.2
Newspapers / Radio / Televi- sion	09	2.2	05	2.1	04	2.4
Blood bank	03	0.7	02	0.8	01	0.6
Telephone in- formation ser- vices	02	0.5	01	0.4	01	0.6
Non-govern- mental organi- zations	02	0.5	02	0.8	0	0
Other	03	0.7	02	0.8	01	0.6
Not informed	23		12		11	
Is it the first attendance?						
Yes	327	77.1	188	76.1	13 9	78.5
No	97	22.9	59	23.9	38	21.5

Occasional or regular use of alcohol was reported by 56.6% of the attendees. Marijuana is the most used illicit drug (13.5% use occasionally or regularly), followed by inhaled cocaine (3.1% use occasionally or regularly). There were no reports of heroin use (Table 2).

Regular alcohol use is higher among students, divorced people, and those with many sexual partners in the last 12 months. There is a higher proportion of abstemious among those with higher schooling levels. There is no clear association between alcohol use and sex, age groups, and skin color (according to the Fisher

exact test, the related p-values are higher than 0.05) (Table 3).

 $\begin{table c} \textbf{Table 2}. Drug use among the users of the VCT-CSE. Ribeir\~{a}o Preto, Brazil, 2016. \end{table}$

Drugs	Never used		lever used No longer use		Occa ally u	sion– Ise	Regularly use		
	п	%	п	%	п	%	n	%	
Alcohol	171	40.3	13	3.1	18 6	43.9	54	12 7	
Marijuana	356	84.0	11	2.6	33	7.8	24	5.7	
Inhaled cocaine	399	94.1	09	2.1	12	3.1	03	0.7	
Injected cocaine	421	99.3	02	0.5	01	0.2	0	0	
Crack	415	97.9	02	0.5	04	0.9	03	0.7	
Amphet- amines	420	99.1	02	0.5	02	0.5	0	0	
Others	417	98.4	05	1.2	01	0.2	01	0.2	

Table 3. Relationship between alcohol use and characteristics of the users of the VCT-CSE. Ribeirão Preto, Brazil, 2016.

				Alcoh	ol use				
	Neve	r used		onger Ise		sion- use		ularly se	Fis- her's
	(n =	171)		= 13)		186)	(n = 54)		Exact
									Test
	n	%	n	%	n	%	n	%	(P va- lue)
Sex									0.13
Men	88	35.6	9	3.6	117	47.4	33	13.4	
Women	83	46.9	4	2.3	69	39.0	21	11.9	
Age group									0.08
< 26 years	42	34.4	4	3.3	63	51.6	13	10.7	
26 to 35 years	57	36.3	4	2.6	75	47.8	21	13.4	
36 to 45 years	27	44.3	2	3.3	25	41.0	7	11.5	
> 45 years	45	53.6	3	3.6	23	27.4	13	15.5	
Occupa- tion									0.02
Employed	109	41.0	5	1.9	122	45.9	30	11.3	
Unem- ployed	26	53.1	3	6.1	13	26.5	7	14.3	
Retired	6	60.0	1	10.0	2	20.0	1	10.0	
Student	30	30.3	4	4.0	49	49.5	16	16.2	
Skin color									0.46
White	82	34.8	8	3.4	115	48.7	31	13.1	
Black	22	48.9	2	4.4	16	35.6	5	11.1	
Asian	3	42.9	0	0	4	57.1	0	0	
Mullato	49	44.1	1	0.9	46	41.4	15	13.5	
Marital status									0.02
Single	53	51.0	4	3.8	34	32.7	13	12.5	
Married	92	37.1	5	2.0	120	48.4	31	12.5	
Divorced	12	31.6	2	5.3	18	47.4	6	15.8	
Widower	6	75.0	1	12.5	1	12.5	0	0	

Regularly

use HIV testing

Reagent

result No rea-

gent result

72.2

81 0

319 83.4

01 48

10 2.6

Education									<0.01
Less than 7 years	28	43.8	4	6.3	22	34.4	10	15.6	
8 to 11 years	81	48.5	7	4.2	63	37.7	16	9.6	
12 years or more	51	30.9	1	0.6	93	56.4	20	12.1	
Sexual partners									<0.01
None	8	57.1	0	0	4	28.6	2	14.3	
1	97	51.0	5	2.6	68	35.8	20	10.5	
2	20	31.8	3	4.8	33	52.4	7	11.1	
3 to 5	33	37.1	0	0	45	50.6	11	12.4	
6 to 9	4	17.4	1	4.3	14	60.9	4	17.4	
10 or more	5	15.1	2	6.1	18	54.6	8	24.2	
HIV test- ing									0.17
Reagent result	7	33.3	2	9.5	11	52.4	1	4.8	
No rea- gent re- sult	158	41.5	10	2.6	164	43.0	49	12.9	

Overall, marijuana usage was higher among younger individuals (15.4%), those who had ten or more sexual partners in the last 12 months (33.3%) and alcohol users (p-values less than 0.05) (Table 4).

Table 4. Relationship between marijuana use and characteristics of the users of the VCT-CSE. Ribeirão Preto, Brazil, 2016.

Marijuana use									
Neve	r used							Fisher's	
(n =	356)	(n = 11) (n = 33)		= 33)	(n =	= 24)	Exact		
								Test	
n	%	n	%	n	%	n	%	(P value)	
								0.08	
198	80.2	7	2.8	24	9.7	18	7.3		
158	89.3	4	2.3	9	5.1	6	3.4		
								<0.01	
92	75.4	3	2.5	16	13.1	11	9.0		
129	82.2	4	2.6	14	8.9	10	6.4		
55	90.2	3	4.9	0	0	3	4.9		
80	95.2	1	1.2	3	3.6	0	0		
								0.42	
227	85.3	6	2.3	18	6.8	15	5.6		
44	89.8	1	2.0	1	2.0	3	6.1		
9	90.0	0	0	1	10.0	0	0		
76	76.8	4	4.0	13	13.1	6	6.1		
								0.05	
199	84.3	6	2.5	25	10.6	6	2.5		
	(n = n) 198 158 92 129 55 80 227 44 9 76	198 80.2 158 89.3 92 75.4 129 82.2 55 90.2 80 95.2 227 85.3 44 89.8 9 90.0 76 76.8	Never used ger (n = 356) (n = n % n % 198 80.2 7 158 89.3 4 92 75.4 3 3 129 82.2 4 4 55 90.2 3 3 80 95.2 1 227 85.3 6 44 89.8 1 9 90.0 76 76.8 4	ger use (n = 356) (n = 11) n % 198 80.2 7 2.8 158 89.3 4 2.3 92 75.4 3 2.5 129 82.2 4 2.6 55 90.2 3 4.9 80 95.2 1 1.2 227 85.3 6 2.3 44 89.8 1 2.0 9 90.0 0 0 76 76.8 4 4.0	Never used ger use ally (n = 356) (n = 11) (n = 11) n % n % 198 80.2 7 2.8 24 158 89.3 4 2.3 9 92 75.4 3 2.5 16 129 82.2 4 2.6 14 55 90.2 3 4.9 0 80 95.2 1 1.2 3 227 85.3 6 2.3 18 44 89.8 1 2.0 1 9 90.0 0 0 1 76 76.8 4 4.0 13	Never used ger use ally use (n = 356) (n = 11) (n = 33) n % n % 198 80.2 7 2.8 24 9.7 158 89.3 4 2.3 9 5.1 92 75.4 3 2.5 16 13.1 129 82.2 4 2.6 14 8.9 55 90.2 3 4.9 0 0 80 95.2 1 1.2 3 3.6 227 85.3 6 2.3 18 6.8 44 89.8 1 2.0 1 2.0 9 90.0 0 0 1 10.0 76 76.8 4 4.0 13 13.1	Never used ger use ally use Image: control of the co	Never used ger use ally use use (n = 356) (n = 11) (n = 33) (n = 24) n % n % n % 198 80.2 7 2.8 24 9.7 18 7.3 158 89.3 4 2.3 9 5.1 6 3.4 92 75.4 3 2.5 16 13.1 11 9.0 129 82.2 4 2.6 14 8.9 10 6.4 55 90.2 3 4.9 0 0 3 4.9 80 95.2 1 1.2 3 3.6 0 0 227 85.3 6 2.3 18 6.8 15 5.6 44 89.8 1 2.0 1 2.0 3 6.1 9 90.0 0 0 1 10.0 0 0 76	

		04.4	•	-	,	0.7	7	0.5	
Asian	6	85.7	0	0	0	0	1	14.3	
Mullato	91	82.0	4	3.6	5	4.5	11	9.9	
Marital status									0.12
Single	96	92.3	1	1.0	5	4.8	2	1.9	
Married	196	79.0	7	2.8	26	10.5	19	7.7	
Divorced	33	86.8	2	5.3	1	2.6	2	5.3	
Widower	8	100.0	0	0	0	0	0	0	
Education									0.55
Less than 7 years	54	84.4	3	4.7	3	4.7	4	6.2	
8 to 11 years	143	85.6	2	1.2	11	6.6	11	6.6	
12 years	137	83.0	4	2.4	16	9.7	8	4.9	
or more	137	83.0	4	2.4	10	, 3.,	٥	4.9	
or more	157	63.0	7	2.4	10	, 5.7	٥	4.9	
or more Sexual partners	15/	83.0	7	2.4	10	, 3.7	٥	4.9	<0.01
Sexual	14	100.0	0	0	0	0	0		<0.01
Sexual partners						0		0	<0.01
Sexual partners None	14	100.0	0	0	0	0 5.3	0	0	<0.01
Sexual partners None	14 174	100.0 91.6	0	0	0	0 5.3	0	0 1.6 4.8	<0.01
Sexual partners None 1	14 174 56	100.0 91.6 88.9	0 3 2	0 1.6 3.2	0	0 5.3 3.2	0 3 3	0 1.6 4.8 4.5	<0.01
Sexual partners None 1 2 3 to 5 6 to 9 10 or	14 174 56 73	100.0 91.6 88.9 82.0	0 3 2 4	0 1.6 3.2 4.5	0 10 2	0 5.3 3.2 9.0	0 3 3	0 1.6 4.8 4.5	<0.01
Sexual partners None 1 2 3 to 5 6 to 9	14 174 56 73 16	100.0 91.6 88.9 82.0 69.6	0 3 2 4 2	0 1.6 3.2 4.5	0 10 2 8	0 5.3 3.2 9.0	0 3 3 4	0 1.6 4.8 4.5	<0.01
Sexual partners None 1 2 3 to 5 6 to 9 10 or	14 174 56 73 16	100.0 91.6 88.9 82.0 69.6	0 3 2 4 2	0 1.6 3.2 4.5	0 10 2 8	0 5.3 3.2 9.0	0 3 3 4	0 1.6 4.8 4.5	<0.01
Sexual partners None 1 2 3 to 5 6 to 9 10 or more	14 174 56 73 16	100.0 91.6 88.9 82.0 69.6	0 3 2 4 2	0 1.6 3.2 4.5	0 10 2 8	0 5.3 3.2 9.0	0 3 3 4	0 1.6 4.8 4.5 8.7	
Sexual partners None 1 2 3 to 5 6 to 9 10 or more Alcohol use Never	14 174 56 73 16	100.0 91.6 88.9 82.0 69.6 42.4	0 3 2 4 2	0 1.6 3.2 4.5 8.7	0 10 2 8 3 8	0 5.3 3.2 9.0 13.0 24.2	0 3 3 4 2	0 1.6 4.8 4.5 8.7 1.33.3	

A first conditional inference tree model used the characteristics of the users of the VCT-CSE to classify them among the classes of alcohol use (never used, no longer used, occasionally used, regularly used). The rectangles at the bottom of the figure correspond to the "terminal nodes" and show bar plots for the relative frequencies of alcohol use classes in each path through the tree. The algorithm selected schooling (p = 0.002)and sexual partners (p = 0.048) as the variables most able to discriminate between alcohol use classes. The first node of the conditional inference tree (the "root node") split the data according to the schooling, suggesting that people with lower levels of education tend to be those who do not consume alcohol, while people with more schooling and many sexual partners (interior node 2) tend to consume more alcohol (Figure 1, panel (a).

03 14 3

30 7.9

0 0

22 5.8

A second conditional inference tree model shows how the characteristics of the users of the VCT–CSE can be used to classify them among the classes of marijuana use. The first node split the data according to the number of sexual partners (p < 0.001), where

0.33

people with ten or more sexual partners in the last 12 months tend to be those who most use marijuana. Among the users with none or less than ten sexual partners, those who never used alcohol (interior node 2, p = 0.038) tend to be those who never used marijuana (Figure 1, panel (b)).

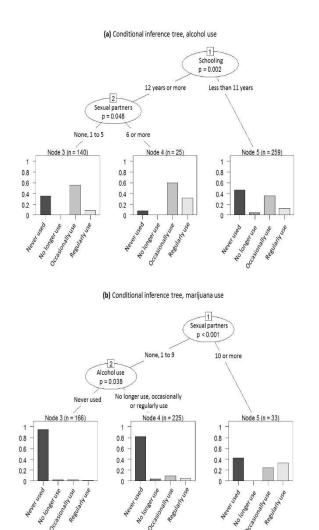


Figure 1. Conditional inference tree based on the characteristics of the users of the VCT–CSE to classify them among the classes of (a) alcohol and (b) marijuana use. Ribeirão Preto, Brazil, 2016.

Discussion

The study by Fonner et al., ¹¹ pointed that effective interventions for HIV prevention have been discovered, including pre–exposure prophylaxis, but these interventions will only succeed if more people become aware of their HIV status. This highlights the importance of the VCT in preventing HIV and accessing care and treatment. In this context, in Brazil, the number of HIV tests performed under the Unified National Health System (SUS) is 2.3 times higher in cities with VCT centers¹². The knowledge of the profile of the users of the VCT allows a better understanding of your needs and provides information to help health professionals improve their skills when they are attending to people at greater risk of exposure to HIV.

In this context, the results of this study allowed a profile of the attendees at the VCT-CSE in Ribeirão Preto, from January 1st to December 31st, 2016. The results showed that most of the attendees were

men, but this percentage is higher than that found at most VCTs in Brazil. For example, a study describing the profile of the clientele of 14 VCTs in the state of Santa Catarina identified a proportion of 35.3% of males13. A study conducted in Alfenas, Minas Gerais, showed a proportion of 47% of men attended at a VCT14. Relatively small percentages of men were also described in other Brazilian studies describing the profile of the attendees at VCTs^{15,16}. One possible explanation for this finding is that the primary reasons for searching the VCT-CSE were to learn about the serological status and risk situation, whereas in other studies, prenatal care is one of the most frequently cited reasons¹³⁻¹⁶. Unlike many other municipalities, in Ribeirão Preto, prenatal care is usually provided by the primary health facilities, which also offer screening tests, and there is no need for pregnant women to seek the VCTs.

The drugs more frequently used by the users of the VCT are alcohol and marijuana. This result is compatible with the findings of other studies that have described the profile of the users of VCTs¹⁴. Alcohol is most used by students, people with 12 years or more of schooling, and those with many sexual partners. On the other hand, marijuana is most used by younger people and those with many sexual partners.

Conditional inference trees were used as an alternative to the traditional logistical regression analysis to study multivariate associations between the variables of interest, considering the presence of small cells in the cross-tabulations. Conditional inference trees newly evidenced that the number of sexual partners is of key importance for classifying the users of the VCT-CSE according to the pattern of use of alcohol and marijuana. This analysis showed that schooling fails to act as a protective factor for alcoholism, and people with higher education and more sexual partners tend to consume more alcohol. Although schooling did not show any significant association with marijuana use, the analysis by conditional inference trees reinforced the role of the number of sexual partners in this risk group.

Unlike other studies, we did not find a significant association between alcohol and marijuana use and HIV seropositivity. A study using a sample of individuals seeking HIV testing in two screening centers in the city of Porto Alegre, Rio Grande do Sul, showed a high association between injected drug use and HIV infection and a moderate association between alcohol, marijuana, and inhaled cocaine and HIV infection¹⁷. Significant relations between drug use and HIV seropositivity among users of VCTs also were founded in another Brazilian study conducted in Bahia¹⁸.

Beyond the well-known association between injected drugs and HIV infection, a study including women seeking a VCT in the city of Rio de Janeiro showed that among those with positive serology for syphilis, approximately 60% had already used inhaled or injected cocaine, crack or heroin¹⁹. Other study showed that the use of alcohol, inhaled or injected cocaine and crack was associated with positive serology for hepatitis C among users of 53 VCTs in Brazil²⁰. This reinforces the view that the use of drugs can increase the situation of vulnerability in which these people are already.

The limitations of the present study include the transversal design that does not allow the establishment of cause-and-effect relationships and the self-reporting of questions related to drug use that may have affected the accuracy of the results. Data were collected in a single VCT at Ribeirão Preto, which

is probably distinct from other centers. Despite these limitations, the results of this study provide important support for understanding the profile of VCT users and for future preventive actions on drug use. In conclusion, the profille of users of VCT-CSE in Ribeirão Preto is characterized mainly by single males between 26 and 35 years old, with least eight Years of formal education, who searched for the service to know their serological status or because they were exposed to a risk situation. Alcohol and marijuana are the most frequently reported drugs used by attendees, and the number of sexual partners is associated with the use of these drugs.

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