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PREVALENCE OF READMISSIONS OF USERS OF ALCOHOL AND OTHER DRUGS AND ASSOCIATED FACTORS

PREVALÊNCIA DE READMISSÕES DE USUÁRIOS DE ÁLCOOL E OUTRAS DROGAS E FATORES ASSOCIADOS

PREDOMINIO DE READMISIONES DE USUARIOS DE ALCOHOL Y OTRAS DROGAS Y SUS FACTORES ASOCIADOS

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ABSTRACT

Objective: to estimate the prevalence of readmissions among individuals who abuse alcohol and other drugs and associated factors. **Method:** cross-sectional study conducted in a Psychosocial Care Center (CAPS) and in rehabilitation clinics, with individuals with history of psychoactive substance abuse, located in the southeast region of the state of Goiás, central Brazil. Data were collected between August 2013 and February 2014, using a socio-demographic questionnaire and pattern of licit and/or illicit drug use. Data were analyzed using the Stata Software Package program, version 10.0. **Results:** 268 individuals were interviewed; among them, 68.7% were readmitted. Multivariate analysis showed an association, in more than one readmission, with the variables "cocaine user" and "alcohol user". **Conclusion:** the prevalence of readmissions and the search for treatment by drug users were high. **Descriptors:** Substance-related disorders; Craving; Cocaine; Alcoholism; Patient Readmission.

RESUMO

Objetivo: estimar a prevalência de readmissão de indivíduos que abusam de álcool e outras drogas, e os fatores associados. **Método:** estudo transversal, realizado no Centro de Atenção Psicossocial (CAPS) e em clínicas de reabilitação, com indivíduos com histórico de abuso de substâncias psicoativas, situados na região sudeste do Estado de Goiás, Brasil Central. Os dados foram coletados entre agosto de 2013 e fevereiro de 2014, por meio de um questionário sociodemográfico e padrão de uso de drogas lícitas e/ou ilícitas. Os dados foram analisados utilizando-se o programa Stata Software Package, versão 10.0. **Resultados:** foram entrevistados 268 indivíduos; destes, 68,7% foram readmitidos. Na análise multivariada, verificou-se associação, em mais de uma readmissão, com as variáveis "usuário de cocaína" e "usuário de álcool". **Conclusão:** foram altas a prevalência de readmissões e a procura por tratamento por usuários de drogas. **Descritores:** Transtornos Relacionados ao Uso de Substâncias; Fissura; Cocaína; Alcoolismo; Readmissão do Paciente.

RESUMEN

Objetivo: estimar el predominio de readmisión entre individuos que abusan de alcohol y otras drogas, además de los factores asociados. **Método:** estudio transversal, realizado en el Centro de Atención Psicossocial (CAPS) y en clínicas de rehabilitación, con individuos con antecedentes de abuso de sustancias psicoactivas, situadas en la región sudeste del Estado de Goiás, Brasil Central. Los datos fueron recolectados entre agosto de 2013 y febrero de 2014, por medio de un cuestionario sociodemográfico y estándar de uso de drogas lícitas y/o ilícitas. Los datos fueron analizados utilizando el programa Stata Software Package, versión 10.0. **Resultados:** fueron entrevistados 268 individuos; de los cuales el 68,7% fueron readmitidos. En el análisis multivariado, se verificó asociación en más de una readmisión con las variables "usuario de cocaína" y "usuario de alcohol". **Conclusión:** ha sido alta la prevalencia de readmisiones y la búsqueda por tratamiento de usuarios de drogas. **Descriptores:** Trastornos Relacionados al Uso de Sustancias; Fisura; Cocaína; Alcoholismo; Readmisión del Paciente.

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INTRODUCTION

It is estimated that 243 million (5.2%) people from the global population, aged between 15 and 64 years, used some kind of illicit drug in the past year, such as marijuana, cocaine, opioid, and amphetamines¹. Alcohol abuse consumption rates are higher among adult males (12.4%) than adult females (4.9%)². In Brazil, the estimate of illicit drug (depressants, stimulants, and hallucinogens) use and abuse is 2% (244,000 adolescents), and about 2.6 million adults consumed some type of these drugs. Furthermore, it is important to emphasize that, in Brazil, approximately 67.2 million (50%) of individuals over 18 years of age consumed alcoholic beverages in the past year³.

In relation to drug abuse, troublesome issues involving it must be considered; in other words, harms that such practices inflict on behavior, physical, psychological, and social health, causing and worsening chronic and infectious diseases⁴, risk-taking sexual conduct⁵, suicides⁶, thefts, and property damages⁷. The most extreme damage the individual can do to their health is death. It is estimated that 183,000 fatalities were related to the use of psychoactive substances in the year 2012, with mortality rates of 40/1 million ranging from 15 to 64.4 years of age.¹

The described situation is even more complex, and all the efforts are devoted on recovering these people, whether through total abstinence or reduction of the damage caused by substance abuse^{8,9}. In order to offer an interventionist strategy in the therapeutic area, it is crucial to identify whether the individual's organism is used to drug consumption, the abstinence consequences and confrontation. Therefore, the strategy should be aimed at providing actions that encourage the user to identify their problem, minimize it, and interrupt it^{10,11}.

Identifying the drug and the consumption pattern as variables among individuals who abuse alcohol and other drugs further contribute to understanding readmissions and (re)treatments - a fact that presents high prevalence (60% for male and 40% female)¹². Interventionist actions for dealing with the problem of abuse of psychoactive substance consumption are correlated to the identification of which types of drugs predispose users to search for specialized treatment¹.

In the search for such variables, the current study was conducted with individuals with substance abuse and who live with or

experienced problems involving this practice. The objective of this study is to estimate the prevalence of readmission among individuals who abuse alcohol and other drugs and associated factors.

METHOD

Cross-sectional study with a quantitative approach conducted in institutions that assist people who use and abuse alcohol, tobacco, and other drugs, among them the Psychosocial Care Centers (CAPS) and rehabilitation clinics for treating chemical dependency, all located in the southeast region of the state of Goiás, central Brazil. Data were collected between August 2013 and February 2014.

The inclusion criteria were: individuals of both genders; 18 years old or older; who were undergoing treatment at the time of data collection; with history of legal (tobacco and alcohol) and/or illicit (marijuana, cocaine, crack, solvents, merla, ecstasy, LSD, among others) drug abuse; guided psychologically through halo effect, and capable of answering the questionnaire. Individuals who showed mental confusion symptoms or were sedated and/or under the effect of alcohol and other substances were excluded.

The data were obtained through individual interview in a private place, conducted by field researchers, including scholars from different periods of nursing undergraduate courses at a public university. The individuals were invited to participate in the research and signed a free and informed consent form. The data collection tool elaborated by the researchers included information on socio-demographic characteristics, including questions related to consumption pattern and legal and/or illicit drug abuse.

The outcome variable of this study was "more than one readmission"; in other words, subsequent admissions in one of the rehabilitation services¹³, considering both admission to rehabilitation clinics and psychosocial care centers. The predictor variables were the socio-demographic characteristics: gender; age (≤ 25 years, 26 to 30 years, and > 30 years); marital status categorized as living with a partner (married, cohabiting, or in a stable union) or living without a partner (single, widowed, or separated); origin (state of Goiás or from other regions of the country); education by categories > 7 years or ≤ 7 years of study. The variables related to drug abuse were: the first search for help (rehabilitation clinics, CAPS/open clinics or own initiative), having been arrested, age of onset for drug use (< 18

years and ≥ 18 years); age at first intervention or treatment (≤ 24 years and ≥ 25 years), user of alcohol, cocaine, crack, and marijuana, active smoker or non-smoker, and whether the person had gone through a near-death experience.

The data were analyzed using the Stata Software Package program, version 10.0. Prevalence of readmissions was estimated with 95% confidence interval (95%CI). Multivariate analysis using Poisson regression was carried out for evaluating the associated factors for readmissions. In the multivariable model, the variables with value of $p < 0.10$ were included in the univariate analysis. Chi-squared distribution test was used for verifying differences on proportions, and values of $p < 0.05$ were considered statistically significant.

Guided by the National Healthcare Council Resolution 466/2012, which regulates ethical principles in research involving human subjects in Brazil, the research matrix project that originated this study was approved by the Research Ethics Committee of the Federal

University of Goiás, under protocol 162/2012. All participants signed a free and informed consent form.

RESULTS

A total of 268 individuals undergoing treatment for drug addiction participated in this study. From this group, most showed readmission (68.7%). In relation to gender, men showed higher readmission prevalence (68.9%) when compared to women (67.5%). The most prevailing predictor variables in readmissions were: age > 30 years (68.3%), living without a partner (71.3%), being from the state of Goiás (69.8%), having children (68.5%), mentioning religion (67.7%), having >7 years of education (71.0%), and having started using drugs with age < 18 years (56.9%).

Regarding the search for help during the process of quitting the substance of choice or reducing damage, most reported that the first search for help took place in inpatient rehabilitation clinics (61.6%), with age ≤ 25 years for the first intervention (62.1%).

Table 1. Prevalence of readmission in inpatient rehabilitation clinics and psychosocial care centers with associated factors. Central Brazil, 2014.

Variable	>1 readmission n/total*	(%)	Gross PR (95%CI)	p value	PR† (95%CI)	adjusted† p value
Gender						
Male	157/228	(68.9)	1.0			
Female	27/40	(67.5)	0.99 (0.90-1.08)	0.86		
Age, in years						
>30	95/139	(68.3)	1.0			
26-30	42/65	(64.6)	1.04(0.96-1.13)	0.24		
≤ 25	47/74	(63.5)	0.97 (0.89-1.05)	0.48		
Marital status						
Living without a partner	154/216	(71.3)	1.0			
Living with a partner	30/52	(57.7)	0.92(0.83-1.00)	0.07	1.06 (0.98-1.11)	0.44
State of origin						
Goiás	120/172	(69.8)	1.0			
Other Brazilian states	64/96	(66.7)	0.98(0.91-1.05)	0.60		
Education, in years						
> 7	120/169	(71.0)	1.0			
≤ 7	64/99	(64.6)	0.96(0.89-1.03)	0.28		
First search for help at						
Rehabilitation clinics	114/184	(61.6)	1.0			
CAPS/open clinics	59/70	(84.2)	1.14(1.07-1.21)	0.00	1.02(0.94-1.11)	0.16
Own initiative	11/13	(84.6)	1.14 (1.01-1.28)	0.02	1.08(0.96-1.22)	0.16
Has been arrested?						
No	124/191	(64.9)	1.0			
Yes	60/77	(77.9)	1.07(1.00-1.15)	0.02	1.03(0.96-1.10)	0.35
Age of onset of drug use						
<18	155/217	(56.9)	1.0			
≥ 18	29/51	(71.4)	0.91(0.83-1.0)	0.05	1.03(0.94-1.13)	0.42
Age at first intervention						
≥ 25	87/140	(62.1)	1.0			
≤ 24	97/128	(75.8)	1.08(1.01-1.15)	0.01	1.00(0.93-1.07)	0.94
Alcohol use						
No	41/78	(52.5)	1.0			
Yes	142/188	(75.5)	2.78(1.57-5.06)	0.00	1.15(1.06-1.25)	0.00
Cocaine use						
No	88/139	(63.3)	1.0			
Yes	95/127	(74.8)	1.72(1.03-2.91)	0.04	1.07(1.00-1.25)	0.03
Crack use						
No	66/111	(59.4)	1.0			
Yes	118/157	(75.1)	1.09(1.02-1.17)	0.00	1.07(0.99-1.17)	0.08
Marijuana use						
No	127/185	(68.6)	1.0			
Yes	57/83	(68.6)	1.00(0.93-1.07)	0.99		
Tobacco use						
No	60/89	(67.4)	1.0			
Yes	122/176	(69.3)	1.08(1.00-1.16)	0.02	1.04(0.95-1.14)	0.36
Has had a near-death experience?						
No	89/143	(62.2)	1.0			
Yes	93/122	(76.2)	1.08(1.01-1.15)	0.01	1.04(0.96-1.13)	0.31

*Denominator reflects the number of valid answers; † multivariate: outcome variable was adjusted for gender, age, marital status, state of origin, education, first search for help, suicidal ideation, homicidal ideation, having been arrested, age of onset of drug use, age at first intervention, alcohol user, cocaine user, crack user, marijuana user, smoker, having had a near-death experience. PR: prevalence ratio; 96%CI: 95% confidence interval; CAPS: Psychosocial Care Center.

Multivariate analysis revealed an association between outcome and predictor variables of cocaine use (p = 0.03; prevalence ratio - PR: 1.07; 95%CI: 1.00-1.14) and alcohol use (p = 0.00; PR: 1.15; 95%CI: 1.06-1.25).

DISCUSSION

On a world-wide scale, it is estimated that two out of six individuals who abuse drugs seek treatment per year¹. Among treatment possibilities available, there is the detoxification process consisting on the adoption of strategies that encourage the abrupt cessation of drug consumption^{8,11},

which is also the most recommended by rehabilitation clinics, one of the search fields of this study.

It is important to emphasize that the rehabilitation clinics and therapeutic communities are on the rise in the market. Whether for easy access or for quantity, they became a resource widely sought by the community. However, this model has also been the target of a great deal of criticism, since their practices do not follow the psychosocial model recommended by the National Healthcare System⁸.

The approach used in the other field of study, in the CAPS, focuses on damage reduction following the perspective of the psychosocial care model, guided by therapeutic actions. The damage reduction policy is characterized as an approach process aimed at curbing social, psychological, and behavioral damages caused by abusive use of psychoactive substances. Such process is carried out through measures employed together with the users of alcohol and other drugs and their families^{9,14}.

The treatment aimed at reducing damages focuses on the level of involvement and availability of the individual, especially on users of more than one illicit drug¹⁵, which can influence readmissions of individuals to the treatment. Craving is also seen as a troublesome factor; in other words, the intense urge and need to use the drug, which can happen at any time, but with higher probability when facing the environment where the drug was obtained or used previously^{2,10}. Craving involves classic conditioning and is associated with the activation of specific neurological reward structures in the brain².

Craving, also known as the urge, is characterized by the act or the impulsive thought for using the drug, triggered by internal or external factors. The probability of suffering a relapse during craving is high, since the organism has already adapted to the substance effects and to multiple internal factors, such as anxiety and depression, or external, such as influence of friends who use drugs, from the environment, or uncertain future¹⁶.

Other limiting variable for access and treatment of individuals who abuse drugs can be related to age-group. The younger segment of the population is more susceptible to drug and alcohol abuse⁵ in age ranges between 15 and 30 years¹⁷ up to 34 years¹⁸. Individuals with lower purchasing power have higher probability to get involved in abusive use of licit and illicit drugs¹⁹.

Another remark on the readmission process for drug users has to do with welfare structures of the healthcare and social services that should guarantee detoxification, in order to help preventing their relapses and readmissions¹¹. In the meantime, the prevalence of readmission estimated in this research was high among the interviewed (68.7%), regardless of the service that assisted them, whether following the approach of abrupt interruption of drug use or through damage reduction.

In relation to legal substance, alcohol users stood out in the readmissions in this study (75.5%), with higher probabilities of readmission compared to those who did not consume alcohol. This result supports the argument that intoxicating chemical substances more commonly used contribute considerably to individual morbi-mortality, resulting in further disabilities all over the world, accounting for deaths (3.8%) and years of life lost (4.6%) due to alcohol substance use².

Taking into consideration the increase in alcohol consumption around the world, other issue this study has raised is the considerable possibility of individuals in the 15 to 64 age group showing disorders as a result of the abuse (3.6%). In this respect, higher prevalence of disorders related to alcohol abuse in the 18 to 29 age group (16.2%)² was evidenced.

At the same time, in the United States, high rates of use and consumption of this legal substance once in a lifetime in adults (80%) and consumption in the last 12 months (65%) were found. The lowest prevalence was found in Africa (1.1%), followed by North, South, and Central America and the Caribbean (5.2%), and Eastern Europe (10.9%)².

Equally problematic, the increasing use of alcoholic beverages causes behavioral and organic intoxication effects, leading to immediate urge and constant craving for consuming alcoholic beverages^{20,21}. Risk factors associated with alcohol consumption among young adults between 18 and 29 years include moderate (odds ratio – OR: 3.15%; 95%CI: 2.3-4.33) and severe craving (OR: 8.47; 95%CI: 4.78-15.01), in addition to stressful events and child maltreatment ($p = 0.017$)¹⁷.

Our discussion on readmission as relapses corroborates a cohort study conducted in Alaska, where men (60%) and women (40%) experienced readmission due to alcohol abuse¹². The percentage of readmission due to alcohol abuse over one year was high (42%) and, in relation to the time after the end of the previous treatment, it was 131 days (standard deviation - SD of 94 and the mean of 105 days). Readmission for treating alcohol abuse was related to abstinence from alcoholic beverages, *delirium tremens* attacks, which strengthened the relapse¹².

On the other hand, it is argued that alcohol, cocaine/methamphetamines, and opioids users, when under total or partial state of abstinence are prone to show satisfactory prognosis after treatment. It is necessary to observe the level of motivation they express zeroing out substance use, and

provide a multidisciplinary team for the rehabilitation of these individuals^{22,23}.

Regarding cocaine abuse, it is estimated the prevalence of 12 months of the disorder related to cocaine use in the United States in the age group from 12 to 17 years (0.2%) and after the age of 18 years (0.3%). Men stand out (0.4%) when compared to women (0.1%), and age between 18 and 29 years (0.6%). The lower rates are in the age group between 45 and 64 years (0.1%). As for stimulant use disorders, they occur among all social groups, most commonly among individuals from 12 to 25 years compared to those above 26 years of age².

Cocaine abuse represents a growing warning in the continents, with concentrations in the American continent, having Brazil as a strategic location for cocaine trafficking. It is important to emphasize that this is the main drug responsible for the search for treatment in America, especially in Latin America and the Caribbean¹.

Studies show that partial functional recovery associated with cocaine addiction is expressed when individuals are submitted to a long period of abstinence^{24,25}. However, the long period of use cessation stimulates the individual to impulsiveness and reactivity, thus strengthening the relapse²⁶. In the case of women, relapse is related to a feeling of self-control and emotional state; for men, the feelings are physical discomfort and stress²⁷.

Cocaine consumption and its craving are influenced by several biological, psychological, and social factors²⁸. In a study conducted with 109 participants aiming at evaluating environmental and contextual influences on the use of cocaine and heroin, and craving, the data showed that drug use is facilitated by craving in less-structured social and physical environments, such as abandoned places²⁹.

In this sense, the creation and implementation of healthcare policies are needed for handling health problems of drug users, in which a multiprofessional team systematizes a therapeutic plan based on biopsychosocial and spiritual aspects. Thus, providing inclusion, reintegration, and rehabilitation of these individuals to the social body is essential.³⁰

CONCLUSION

Readmissions among individuals who seek treatment were associated to "alcohol use" and "cocaine use" variables.

The prevalence of (re)treated individuals is higher among those who sought treatment for

the first time in a psychosocial institution and in open communities or by own initiatives. However, it is relevant to point out that almost one quarter of the sample was comprised by individuals who followed these paths, which in turn might not be a sufficient quantity for reaching any conclusion. Facing such an indicative, further studies are suggested for providing more conclusive evidences.

The employed method, which does not allow incidence estimations, and the convenience sample, which circumstantially represents a particular location and prevents generalization, were considered the limitations of the current study. However, the prevalence showed was similar to other studies mentioned.

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