Binge drinking and its consequences for drug users under treatment

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ABSTRACT

The objective was to evaluate binge drinking and its consequences in drug users. A quantitative approach, descriptive study developed with 140 subjects of a Psychosocial Care Center – Alcohol and Drugs. A socio-demographic information, severity of alcohol dependence scale and severity of drug use scale were applied. The sample was characterized by adult male (76.4%), single (77.1%), non Caucasian (54.3%), low level of education (57.1%) and Catholic (55.8%). They were crack users (38.6%), polydrug users (32.1%) and cocaine users (29.3%), the majority (80.7%) consisted of binge drinking users who had severe levels of alcohol dependence (93.8%). Threatening, aggression and fighting were observed in the sample. The results indicate the need to provide more intensive interventional strategies to control alcohol consumption in this vulnerable segment of population in order to minimize injuries.

Descriptors: Alcohol-Related Disorders; Binge Drinking; Nursing Care; Cocaine; Crack Cocaine.

INTRODUCTION

According to World Health Organization (WHO), annually the consequences of harmful use of alcohol result in about 2.5 million of deaths[1]. The harmful use of alcohol is responsible for approximately 320,000 young deaths in working age, which surpasses smoking as a risk factor for several diseases and also poses a six times higher risk than the use of illicit drugs. Alcohol has properties that cause addiction and heterogeneously affect population with its vulnerability peculiarities in each social class. The consequences

of alcohol abuse are evident in social and economic spheres and in the health system due to high rates of morbimortality that lead to subject's disability[1].

The national survey on alcohol consumption patterns results in Brazilian population showed that half of Brazilians over 18 years old drink at least once a year, the majority is male. In this sample, 11% of interviewed reported drinking every day and 28% from one to four times a week. It was also identified that 38% of men who drank in the last year presented binge drinking[2].

Currently, researches had been highlighting a particular, more frequent and with major deleterious health consequences type of alcohol consumption: binge drinking. It is a pattern characterized by large amounts of alcohol consumption in a short period of time, practice described in literature as binge drinking or drinking in binge. This term is used to define the "episodic alcohol abuse". It characterizes a high-risk consumption and it is frequently associated to a number of physical, social and mental issues[1-4]. This pattern of consumption results in major neurophysiological changes (disinhibition, cognitive impairment, decreased attention, worsened judgment skills and decreased motor coordination)[4].

Alcohol consumption characteristics and complications are related to volume and frequency of beverage consumed[1-6]. Drinkers that practice binge drinking present major injuries compared to subjects that continuously consume alcohol in smaller volumes. Binge drinking is described as a behavior that enhances alcohol consumption-related injuries, representing health risk and high economic and social costs[5].

Binge drinking is present in different cultures, each with its particularities, identified mostly in young and adult population. Male subjects tend to consume more alcohol compared to female subjects[6].

The study found that binge drinking has been increasing in United States; 17.1% of the population have been practicing binge drinking with greater frequency and intensity. In this study, subjects who started alcohol consumption at an early age were three times more likely to practice binge drinking, but it was observed that episodes of alcohol abuse tend to decrease with age[7].

When associated to other drugs, alcohol is a major causal factor in the development of more than 60 kinds of diseases. According to World Health Organization (WHO)[1], alcohol abuse is related to major factors that contribute to the onset of neuropsychiatric disorders, epilepsy and other chronic conditions, cardiovascular diseases and liver cirrhosis. Alcohol consumption is also related to sexual behaviors that expose subjects to risks such as HIV/AIDS infection and other sexually transmitted diseases. Alcohol abuse can also lead subjects to maintain multiple sexual partners and practice unprotected sex[1,8].

Alcohol consumption associated to cocaine is one of the most frequent combinations, which has been becoming an increasingly common habit among drug users. This association causes public health issues, enhances a number of clinics, psychiatric and social complications and contributes to the increase in morbimortality rates. It is observed in clinical practice and research that cocaine and crack users, in general, are also users of other psychoactive substances and practice alcohol abuse[9].

In the body, the interaction between these two drugs produces a substance called cocaethylene that

exhibits similar and higher toxic mechanisms of action than cocaine itself[10]. This cocaine metabolite is formed in the presence of ethanol, so its slow removal by the body makes the combination an major attractive. Chronic use of alcohol and/or cocaine/crack can trigger the development of psychiatric disorders, especially mood disorders[11] and cause serious cardiovascular and liver toxicity issues, increasing loss of consumption control, prolonged increase of euphoria, social problems and violent behavior, leading to exposure to high-risk behaviors, providing the basis for clinical cases of greater severity[12].

A strong relationship between the frequent use of alcohol and cocaine was identified. These psychoactive substances cause high levels of anxiety and desire that make subjects more susceptible to relapsing during treatment and increase their vulnerability to stress and use of other drugs[13]. Polydrug users have a high impairment of their cognitive functions such as memory and logical thinking and executive functions such as planning, carrying out various tasks, verbal fluency, and other[4,8-9,11].

Studies evaluating binge drinking in cocaine users in its different forms (inhaled and smoked) who were in treatment are still sparse in Brazil. Most research are descriptive and surveys. Available research only showed assessments of consequences for each drug separately. Binge drinking and its consequences go beyond clinical nature, as pervade family, social and cultural issues that are often inseparable, but can be prevented early. Thus, it is extremely important to know the profile of this population, which is growing in health assistance programs, identify their particularities and understand the characteristics related to binge drinking in order to plan a good quality of care to these subjects.

In the national scenario, one of the challenges found in the context of clinical practice of alternative services in mental health professionals is to implement control strategies to minimize harmful consequences of this consumption pattern, since most users has chronic alcohol consumption. In this sense, this study explores some gaps and concrete transformation opportunities of these practices in prevention of major injuries.

The objective of this study was to evaluate binge drinking and its consequences in drug users in treatment for addiction.

MATERIALS AND METHODS

This is a cross-sectional, exploratory study with quantitative approach.

The research was conducted in Psychosocial Care Center for Users of Alcohol and Other Drugs (CAPSad) located in a medium-sized city of São Paulo State.

The sample consisted of 140 drug users that had sought treatment for the first time in this service. Recruitment took place through the establishment of a consecutive sample of subjects that had sought treatment on a spontaneous demand or by referral.

The eligibility criteria were: clients of both genders, aged over 18 years, registered in the service. The exclusion criteria were: subjects that had severe mental retardation, obvious psychotic symptoms and severe cognitive impairment assessed by the Brief Psychiatric Rating Scale (BPRS). No user refused to participate in

the study or was removed based on the application of the exclusion criteria.

Participants were recruited from routine therapeutic activities of the service, ie, the first individual care or after participation in the host group. These activities were chosen considering that all admitted users were submitted to consultation with a nurse or other professional of health care team. Participants were presented to researchers by a nurse of the service and informed about the research procedures. Upon acceptance, they had signed the Informed Consent and received a copy of the document. The interview was scheduled in a private place. Data collection was conducted from February to June 2012.

It was conducted a previous training for researchers to standardize data collection procedures. For data collection was elaborated a questionnaire containing: (1) Sociodemographic information; (2) Short Alcohol Dependence Data (SADD) questionnaire; (3) Alcohol Use Disorders Identification Test - C (AUDIT-C); (4) Severity of Dependence Scale (SDS).

(1) Form of sociodemographic information: composed by age, gender, race, marital status, education and religion.

(2) Short Alcohol Dependence Data (SADD) was translated and validated into Portuguese of Brazil[14]. It is a scale comprising 15 items related to the severity of alcohol dependence. According to the total sum of points, users are classified as mild (1-9), moderate (10-19) and severe (20-45) dependence.

(3) Alcohol Use Disorders Identification Test - C (AUDIT-C) is a shortened version of AUDIT. This test contains three items related to amount, frequency and consumption of binge drinking. To read consumption risk levels it is necessary to sum the responses ranging from zero to 12 points with different scores between genders: scores from four points for females and from five points for males, which indicate a harmful consumption and drive the intervention[15]. In this study was used only the third item of this instrument relative to the evaluation of binge drinking.

(4) Severity of Dependence Scale (SDS) measures the level of severity of addiction to cocaine and/or crack[10,16]. Each of the five items includes a four-point scoring responses. The total score is obtained by summing the five items that measure the symptoms of dependence syndrome in the last 12 months. To read the results, the higher the score, the greater the level of severity of drug dependence [10,16].

The project was approved by Research Ethics Committee of Centro Saúde Escola da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo, Process #381, in accordance to recommendations in Resolution 466/2012.

For statistical analysis, a database on Statistical Program of Social Science (SPSS), Version 19 for Windows, was elaborated. An exploratory analysis through means, frequency and percentage of data was performed to elucidate the characteristics of the sample. Fisher's exact test and chi-square test were used to measure the degree of association between two variables, test the existing significance between two qualitative variables, compare proportions and possible differences between the observed and expected

frequencies for a particular event. $p < 0.05$ was considered the level of significance with Confidence Interval (CI) 95%.

RESULTS

The sample consisted of 140 (100%) drug users, of whom 113 (80.7%) practice binge drinking. Participants were predominantly adult, single, non Caucasian, with low level of education and catholic male subjects. Patients who practiced or not binge drinking didn't differ in terms of sociodemographic characteristics in this sample (Table 1).

Table 1: Sociodemographic information and binge drinking in drug users (N = 140). Ribeirão Preto, SP, Brazil, 2015.

		Total		BD				p-value
				Yes		No		
		n	%	n	%	n	%	
Total		140	100.0	113	80.7	27	19.3	
Gender	Male	107	76.4	86	80.4	21	19.6	0.538[a]
	Female	33	23.6	27	81.8	16	18.2	
Age group	18 to 29	51	36.4	38	74.5	13	25.5	
	30 to 49	68	48.6	55	80.9	13	19.1	0.128[b]
	50 or more	21	15.0	20	95.2	1	4.8	
Race	Non Caucasian	76	54.3	61	80.3	15	19.7	0.528[a]
	Caucasian	64	45.7	52	81.3	12	18.8	
Marital status	Consensual union	32	22.9	27	84.4	5	15.6	0.376[a]
	Single	108	77.1	86	79.6	22	20.4	
Education	Elementary school	80	57.1	70	87.5	10	12.5	
	High school	49	35.0	37	71.2	15	28.8	0.061[b]
	Higher education	8	5.9	6	75.0	2	25.0	
Religion	Catholic	58	55.8	47	81.0	11	19.0	
	Evangelical	37	35.6	31	83.8	6	16.2	0.359[b]
	Irreligious	9	8.6	9	100.0	-	-	

[a] Fisher's exact test. [b] Chi-square test. (*) $p \geq 0.05$

Regarding the use of drugs, 38.6% were crack users, while 32.1% were polydrug users and 29.3% were cocaine users.

The frequency of binge drinking was higher in participants who consumed from one to two days in a week and daily, with statistically significant associations when compared to those who didn't practice binge drinking (Table 2).

Table 2: Binge drinking frequency in the last six months according to drug users (N = 140). Ribeirão Preto, SP, Brazil, 2015.

		BD				p-value
		No		Yes		
		N	%	N	%	
Frequency	No use	25	2.5	15	37.5	
	1-3 times per month	1	10.0	9	90.0	
	1-2 times per month	-	-	11	100.0	0.000*
	3-6 times per month	1	4.0	24	96.0	
	Daily	-	-	54	100.0	

Chi-square test. (*) $p \leq 0.05$

Binge drinking occurred in a higher percentage in polydrug users with regular consumption in the last 30 days and daily when compared to cocaine and crack users, with statistically significant differences (Table 3).

Table 3: Drug type and frequency of binge drinking according to drug users (N = 140). Ribeirão Preto, SP, Brazil, 2015.

| | | Drugs used | | | | | | p-values |
| | | Cocaine | | Crack | | Polydrug | | |
		N	%	N	%	N	%	
1. Regular consumption (three or more days/weeks)	No	13	35.1	24	64.9	-	-	0.000*
	Yes	28	27.2	30	29.1	45	43.7	
2. Consumption in the last 30 days	No	24	38.7	28	45.2	10	16.1	0.001*
	Yes	17	22.1	25	32.5	35	45.5	
3. Daily consumption in the last 50 days or more	No	10	37	17	63	-	-	0.000*
	Yes	31	27.4	37	32.7	45	39.8	

Fisher's exact test. (*) $p \le 0.05$

Users who practiced binge drinking showed a greater percentage of severity level of severe (Yes 93.8% versus No 6.2%), moderate (Yes 97.1% versus No 2.9%), mild (Yes 82.6% versus No 17.6%) alcohol dependence (SADD) and no alcohol dependence (Yes 17.4% versus No 82.6%) with statistically significant differences ($p \le 0.05$).

When comparing drug addiction scale (SDS) and alcohol addiction scale (SADD) and binge drinking, users who practiced binge drinking had higher mean values (20.7 ± 10.3 t = 6.3 CI 19.0–9.9) only in the levels of severity of alcohol dependence (SADD) when compared to those who didn't practice binge drinking (± 6.2, 3.5 t = 5.6 CI 19.7–9.3) with values statistically significant ($p > 0.05$). Regarding SDS scores (BD Yes 11.7 ± 3.9 versus BD No 11.4 ± 3.2) there was no statistically significant difference ($p > 0.05$).

Although most cases of violence has prevailed among participants who practice binge drinking, there were no statistically significant differences when compared to those who didn't practice binge drinking (Table 4).

Table 4: Frequency of situations of violence after cocaine/crack use and binge drinking according to drug users (N = 140). Ribeirão Preto, SP, Brazil, 2015.

| | | BD | | | | P-value. |
| | | No | | Yes | | |
		N	%	N	%	
Threatened by physical violence	No	14	15.4	77	84.6	0.085
	Yes	13	26.5	36	73.5	
Aggressiveness	No	9	24.3	28	75.7	0.064
	Yes	18	22.2	63	77.8	
Involvement in fights	No	16	25.8	46	74.2	0.283
	Yes	11	19.6	45	80.4	
Encouraged to fight for yourself	No	18	27.3	48	72.7	0.145
	Yes	9	17.3	43	82.7	

Fisher's exact test. p-values ≤ 0.05.

DISCUSSION

This study evaluated binge drinking in a clinical sample of cocaine (inhaled and smoked) users in treatment for addiction. A major concern for this behavior is that it represents several risks for the health of the subject, favoring conditions for the emergence of sexually transmitted diseases, severe high blood pressure, stroke, liver disease and neurological damage[1-6]. In addition to exposure of users to psychosocial vulnerability situations that enhances their engagement in acts of violence (physical violence among couples, fights, traffic accidents)[1].

The sample consisted of 140 (100%) participants predominantly characterized by adult, male, single, non Caucasian with low level of education and catholic. However, there were no differences in the sample when comparing sociodemographic characteristics and binge drinking (Table 1). Sociodemographic conditions and social context of the subjects are major factors that interfere in care planning and treatment outcome[17].

Crack associated with polydrug use was prevalent among interviewed users. Regardless of the use of these drugs, 113 (80.7%) users practiced binge drinking. As a specific sample of subjects in treatment, these percentages can be considered high. Binge drinking is characterized as a very common behavior, especially in young men, because alcohol is widely socially acceptable[1-2,18].

Identification of binge drinking as well as its consequences in cocaine and crack users has been crucial to consumption standard monitoring and early interventional actions planning in the face of the issues that this behavior may result. Studies recommend efforts to elucidate the relationship between variables (cocaine versus binge drinking) in order to investigate associations between drinking behavior and its acute and chronic consequences[10,19].

In this study, participants that practiced binge drinking presented more intense consumption frequency, ie, once or twice a week and daily when compared to those who didn't practice binge drinking with statistically significant differences (Table 2). Knowing the consumption pattern of a subject that drinks at risk levels increasingly becomes necessary in the practice of nursing for the purpose of recognition of health risks and implementation of specific interventions to minimize issues arising from this behavior[17].

Binge drinking pattern was shown differentiated in the sample. Among polydrug users, there was a predominance of regular use in the last 30 days and daily consumption when compared to cocaine and crack users with statistically significant differences (Table 3). Regarding this, literature describes alcohol as the substance most commonly used by polydrug users and heavy drinkers and there is considerable portion that makes use of cocaine and crack[13].

In a study with 111 patients, mostly male, adult, black, unemployed subjects who sought outpatient treatment and were diagnosed with alcohol and cocaine dependence, it was found that participants preferred to use combined substances instead of isolated substances; this can be explained by the sum of simultaneous effects or reduction of those caused by the use of one drug only[20].

Regarding syndrome of alcohol dependence, binge drinking users were classified at the level of

*moderate severity (Table 4). In addition, a result that draws attention is noted in c*omparison of mean values among severity levels of alcohol consumption, which was higher among binge drinking users.

The results corroborate those of other researches that show that subjects who practiced binge drinking were more likely to develop alcohol dependence. Knowing the patterns of consumption and levels of severity of alcohol and other drugs dependence allows us to draw guidelines for the implementation of health actions and interventions [21].

Another major result observed in this study refers to situations of violence. Participants who practiced binge drinking had higher percentages of engagement in acts of violence (fighting, physical violence, aggressive behavior, encouragement to fight) (Table 4). Regarding this, literature shows that binge drinking is potentially related to morbimortality risks that can be prevented early. It also increases the likelihood of engaging in violence situations in both roles of aggressor or victim[22]. There is evidence of strong association between binge drinking and engagement in fights and, accordingly, consumption of alcohol and illicit drugs is observed in several violent events. A study with 1,631 subjects found that the number of victims and aggressors was higher in situations involving binge drinking totaling 18.2% of victims and 15.9% of offenders[23].

There is evidence that up to 92% of reported violence episodes can be attributed to the effects of psychoactive substance use[24]. Another study with 102 subjects users of inhaled and smoked cocaine revealed that 35% of the study population reported binge drinking at least once a week. It was found that, in addition to heavy drinkers, crack users engage more issues and are more likely to use illegal drugs besides alcohol[25]. The consequences of this use, however, have been ignored for too long and there are few Brazilian studies linking binge drinking and situations of violence. Despite being evident the risk of injuries resulting from this combination, health professionals are still few sensitized and trained to face this reality.

A limitation of this study refers to the fact that it was done in only a service specializing in chemical dependency treatment, which makes the sample not representative of psychoactive substance users population. Thus, the data must be considered with caution when compared to other samples not derived from specialized services.

The results reaffirm the need to develop new research to address the issue with more robust samples and the use of other methodological approaches, such as follow-up studies, that can exploit the stability of consumption pattern and its progression over time.

CONCLUSION

This is one of the few Brazilian studies on binge drinking in a clinical sample of drug users in treatment. It was observed that binge drinking is a very common habit in this population and seems to be associated with severe levels of dependence of both alcohol and other drugs. This study also sheds light on the fact that 80.7% of drug users practiced binge drinking, highlighting the severe and moderate levels of severity. It was identified the exposure to various situations of violence, however, associations with alcohol consumption

were not significant. These data have an impact on professional practice in that it provides information for planning and systematization of nursing actions, from the use of standardized instruments and culturally sensitive to the most vulnerable segments of the population.

Alcohol consumption is a complex public health problem that affects many dimensions of community life. Professional nursing play a crucial role in assisting users of alcohol and other drugs, considering their longer contact with patients in health services. These findings provide major information on binge drinking in drug users, which helps professionals to qualify for recognition and identification of issues related to alcohol abuse and also for formulation of motivational intervention strategies that help behavior change in order to meet full needs of these subjects. These actions, applied together, can contribute to the improvement of quality of care without neglecting the importance of providing preventive practices through education and health promotion in various services.

Acknowledgements

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