

TITLE PAGE – Manuscrito 4579

Risk factors associated to psychoactive substance consumption in emergency room patients admitted for non-fatal violent injuries – Analysis of data from WHO Collaborative Multi-country Study. \ Fatores de riscos associados ao consumo de substâncias psicoativas em pacientes atendidos em sala de emergência por trauma violento não fatal – Dados de Estudo Multicêntrico Colaborativo com a Organização Mundial da Saúde.

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Key-words: Wounds and Injuries, risk factors, substance-related disorder, hospital emergency service, violence, substance abuse detection, prevalence, transversal study.

Abbreviations: ER = Emergency Room, CI = Confidence Interval, OR = Odds Ratio.

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Data in this article was part-presented at the XV Brazilian Congress for the Brazilian Association of Studies on Alcohol and other Drugs (ABEAD) – Youths and Drugs, Education, Community and the Media – held in São Paulo, Sept. 2003. The article was awarded the **Jandira Masur** prize for best work in the Basic Research Category. Financial support was received from the WHO Department of Mental Health and Substance Dependence / Management of Substance Dependence team (MSD/MSB), in collaboration with the WHO Department of Violence and Injury Prevention (VIP), along with support from Interfast / Phamatech in the supplying of materials for urine screening.

RESUMO

OBJETIVOS: identificar fatores de risco associados ao consumo de substâncias psicoativas em traumas violentos não fatais em pacientes admitidos em pronto socorro de um hospital geral, em São Paulo, Brasil.

MÉTODOS: um estudo transversal foi conduzido no pronto socorro com 353 pacientes admitidos por trauma não-fatal durante três meses de observação no período compreendido de julho a setembro de 2001. Os instrumentos utilizados foram os seguintes: um questionário padronizado pela Organização Mundial da Saúde com dados sócio-demográficos; o DAST; um quadro sobre o padrão de consumo de drogas; uma versão adaptada do AUDIT para drogas (DUDIT), screening de urina para maconha, cocaína, benzodiazepínicos e o bafômetro. Utilizou-se o teste estatístico Chi Quadrado para avaliar a significância da associação e o modelo de regressão logística para tentar explicar o trauma violento.

RESULTADOS: o bafômetro foi positivo em 11% (N=353/n= 39), para o teste de canabis (THC) 13.6% (N=242/n= 33), para o teste de cocaína 3.3% (N=242/n=8) e para o teste de benzodiazepínicos em 4.2% (N=166/n=7).

Cerca de 14% (n =49) dos traumas foram considerados violentos. Três fatores de risco foram identificados como favorecedores da probabilidade de trauma violento: gênero masculino, bafômetro positivo e traumas que acontecem fora de atividade de trabalho.

CONCLUSÕES: faz-se necessário uma vigilância epidemiológica mais efetiva em situações de trauma com envolvimento de substâncias psicoativas; para se identificar populações de risco e situações reconhecidas de violência. Isto permite estabelecer prioridades no desenvolvimento e planejamento de políticas preventivas e curativas em saúde.

SUMMARY

OBJECTIVES: to identify risk factors associated with consumption of psychoactive substances in non-fatally violent injured patients admitted to the emergency department of a general hospital in São Paulo, Brazil.

METHODS: a transversal study on 353 patients admitted to an emergency department for non-fatal injuries over the 3-month period between July and September, 2001. The instruments used were a WHO questionnaire for socio-demographic data collection, the DAST - assessment of pattern of drugs consumption, a version of AUDIT adapted for drugs (DUDIT), urine screening for cannabis, cocaine and benzodiazepines, and a breathalyzer device. The Chi Squared test assessed association significance, whilst logistic regression was used to analyze violent injuries.

RESULTS: 11% (N=353/n= 39) was positive in the breathalyzer; in 13.6% (N=242/n= 33) for the cannabis test (THC), in 3.3% (N=242/n=8) for the cocaine test, and 4.2% (N=166/n=7) for the benzodiazepine test.

Approximately 14% (n=49) of injuries were considered violent. Three risk factors were found to increase the likelihood of violent injuries, namely: male gender, positive breathalyzer test, and traumas occurring outside the workplace.

CONCLUSIONS: Greater vigilance in the setting of injuries involving psychoactive substances could better identify high-risk populations and situations conducive to violence. This knowledge can have ramifications by allowing prioritization of health planning and development, and in devising both preventative and remedial health policies.

INTRODUCTION

The link between alcohol, drugs, injuries, and violence remains a common theme in the areas of justice and public security, often being the subject of newspaper headlines and news broadcasts. Given the preventable nature of such

injuries are however, this issue is also becoming of growing interest to public health.

The involvement of psychoactive substances in injuries has been shown in numerous studies, with alcohol consumption playing a role in approximately 30% of motor vehicle accidents and 40–56% of assaults. In addition, 50% of trauma patients are found to have been injured while under the influence of alcohol (Borges et al., 2004).⁴

Toxicological studies have reported differing levels of injury prevalence and drugs use, depending on the respective population and location under study. In severe trauma situations these levels tend to range from 7 to 37% for cannabinoids, from 8 to 12% for cocaine, and from 4 to 8% for benzodiazepines (Perran et al., 1989, Rivara et al., 1988, Everest et al., 1996, Carrigan et al., 1997). Levels in adolescent populations however, range from 6 to 7.5% for cannabinoids, 8% for cocaine, 6% for benzodiazepines, and 9% for alcohol (Cremona et al., 1992, Chung et al., 2003). Prevalence is higher in psychiatric patients visiting Emergency Rooms, than for other populations studied, with levels of 12.8% for cannabinoids, 38% for cocaine and 7.6% for benzodiazepines (Perrone et al., 2000).⁶

Despite the well established link between injury and psychoactive substance use, no robust data has yet been drawn from any effective epidemiological vigilance able to quantify the true extent of this problem in Brazil.

Nevertheless, preliminary data available to date point to an alarming situation. A case in point is the death rate amongst Brazilian youths and adults due to external causes, which has been on the rise and is becoming the underlying norm throughout the national territory, largely affecting the most fully productive segment of the population. Violent deaths in Brazil account for around 20% of all male deaths, whilst the percentage for women stands at about 5%. The most seriously affected group is that of youths and adults aged between 15 and 29

years. The South-eastern region has the highest rate at 224 deaths per 100 thousand inhabitants, whereas in the district of São Paulo this rate stands at 13.23 deaths for every 100 thousand inhabitants, mainly as a result of elevated road-traffic accidents, with murder alone accounting for 56.39 per 100 thousand.²¹

The high incidence of deaths amongst youths of male gender makes a significant contribution toward the eight-year gap in life expectancies between men and women, which stand at 72.6 years for women and 64.8 years for men in 2000. Premature deaths of male youths lead to high social costs and a high cost of hospitalization, where individuals are falling victim to road-traffic accidents, murder, etc. Overall, the proportion of total spending on hospitalization due to external causes (violent) within the public hospital network is 11%, where this rises 3-fold in the younger age group.¹⁴

The link between violence and psychoactive substance use is also present within the home. In a recent survey carried out by CEBRID (Brazilian Center for Information on Psychotropic drugs) of the Federal University of São Paulo, where over 200 thousand inhabitants were interviewed at 2,372 residences from 27 districts in São Paulo State, found the aggressor to be drunk in 52% of cases of domestic violence, while also showing 6% to be under the influence of drugs in such episodes (Carlini et al., 2002).⁵

A study by São Paulo University's Faculty of Medicine, which analyzed the prevalence of alcoholemia in patients admitted to Clinicas Hospital's Emergency, showed that 26% of cases (CI 95% 21.3-31.3) tested positive in 247 blood samples from cases comprising victims of road-traffic accidents, aggression and falls. (Carvalho, 2002).⁷

The aims of the present article are to: (1) estimate the prevalence of psychoactive substance consumption in patients admitted to a General Hospital emergency department for non-fatal injuries; (2) assess the internal validity of the instruments in data collection; (3) identify risk factors associated with the

consumption of psychoactive substances and violent injuries in such patients.

The data described in this article make up part of a Collaborative Multi-country epidemiological study with the World Health Organization on alcohol and traumas, which was carried out across the following 12 clinical centers: Argentina, Brazil, Belarus, Canada, China, the Czech Republic, India, Mexico, Mozambique, New Zealand, South Africa and Switzerland.

MATERIALS AND METHODS

A transversal study carried out within a General University Hospital Emergency Department, situated in the city of São Paulo/Brazil. São Paulo Hospital is a public tertiary hospital, offering 654 beds, and was chosen in order to reduce any possible bias in selection - of the kind occurring in studies carried out at centers specialized in trauma care, such as those for spinal or head trauma.

The study was approved by the São Paulo Federal University Ethics Committee in accordance with the 1975 Helsinki Declaration. All subjects involved in the research signed an informed term of consent prior to taking part in the study, having been guaranteed anonymity and confidentiality.

Eleven previously-trained researchers assessed all 353 patients brought to the emergency room as a result of non-fatal injuries, over a 6-week, 24-hour-a-day, seven-day-a-week data-collection period and on a shift basis, from July to September, 2001. Endeavors were made to perform this study during the months of the year in which popular traditional festive events do not fall, such as Carnival and New Year, when the number of accidents associated to psychoactive substance use is believed to increase.

For the purposes of this study, trauma was considered any disturbance which caused wounds or injury to the person. For inclusion in this study patients had to be over 18 years of age, have experienced some kind of non-fatal trauma occurring less than 6 hours previous to recruitment, and had to be receiving

trauma care for the first time. Those patients returning for check-ups, and those who had not given their free and informed consent to proceed with the study were excluded.

The instruments used were as follows:

- A standardized WHO questionnaire: covering socio demographic data, breathalyzer analyses, specific questions pertaining to the trauma, alcohol consumption prior to the trauma, habitual pattern of alcohol use, and pattern of alcoholic beverage consumption one-week prior to the trauma.

- A version of the AUDIT (Alcohol Use Disorder Identification Test) adapted for drugs, which the authors denoted the DUDIT. This version was based on the validated AUDIT version for the Portuguese language. AUDIT was created with a view to being applied in primary care to screen patients for alcohol disorders, and is characterized by being a rapid and easily-applied questionnaire. The adapted version is a self-administered questionnaire including three items on the amount and frequency of use of drugs, three on drug dependence, and four on common problems caused by drugs. Each item is scored 0-4, giving a total score of 40 and was administered in this study with a cut-off point greater than or equal to 2, for probable positive cases. (Mendéz, 1999, Piccinelli, 1997).^{16, 20}

- DAST (Drug Use Questionnaire; Skinner 1982) comprises 20 questions related to drugs use over the past year. This instrument covers questions on abuse, dependence, signs and withdrawal symptoms, social, family and legal impact, medical problems and previous treatment. A problem severity score of 0 was equivalent to no problems; from 1 to 5 represented low severity, 6 to 10 - moderate, 11 to 15 – substantial, and 16 to 20 - a severe degree. (Martino et al., 2000).¹⁵

- Investigation into the pattern of psychoactive substance consumption over the previous 24 hours and during the past year.

- Urine screening for cannabis, cocaine and benzodiazepines.

- Breathalyzer Test (Alco-Sensor III), where readings over 4 were considered positive.

Statistical analysis of the data produced distributions for frequency and dispersion and trend measures for the different variables examined. In the analysis of the psychometric properties of DUDIT and DAST scales, Cronbach's Alpha Index was employed as a measure of the reliability of the scales, and in the correlation of each item and the scale total as a measure of validity (sig. < 0.01, correlation representing 1%).

Data analysis involved selecting all explicative variables related to whether the trauma had been caused by violence or otherwise. Following data analysis, selected variables underwent multivariate analysis using multiple logistic regression through the Stepwise Backward method, removing non-significant variables through the Wald statistics-based test until an acceptable model was achieved. The Wald statistics test (Coefficient/Standard Error) furnishes indicators as to which of the variables are relevant in the model, attempting to associate the use of alcohol and drugs with violent trauma. Critical values of 2 give a significance level of approximately 0.05, whereby values over and above this indicate permanent inclusion of the variable in the hypothesis under test. (Agresti, 1990, Hosmer, 1989).^{1, 13}

RESULTS

A total of 353 subjects were included, where 22 cases were dropped for the following reasons: 3 direct refusals, 12 too severely injured to answer the questionnaires, 2 very intoxicated, 1 due to communication difficulty, 1 death, 1 left the ER before having finished the interview, 2 due to other causes.

The sample comprised largely males (66%, n=235), workers (67%, n=327), and individuals on low, or very low, incomes (70%, n=246). Average schooling was 8.5 years (SD=4.6) while the average age for the sample was 35.5 years (SD=16.5).

Nature of Injuries

The most frequent injury types were: cuts, bites, penetrating or open wound in 36% (n=129, CI 31.5-41.5) of cases; bruising, laceration, superficial wound representing 24% (n=84, CI 19.4-28.2), whilst pulled muscles, spraining and dislocations were seen in 21% (n=74, CI 16.8-25.2). With regard to how patients became injured, 33% (n=117, CI 28.2-38.8) reported that they had hurt themselves by falling or tripping, 17% (n=61, CI 13.4-21.2) were hurt through stabbing, cutting, or biting, and 14% (n=50, CI 10.6-17.8) due to a sharp punch. The majority of injuries (39%/n=139, CI 34.3-44.5) took place in the street or on the road, 31% (n=108, CI 25.8-35.4) occurred in the workplace, and 17% (n=61, CI 12.5-21.5) happened within the home.

Toxicological Screening

The breathalyzer was applied to a sample of n=353 patients where the result was positive in 11% (n=39, CI 7.7-14.3). Around 10% (n=33, CI 6.3-12.3) of the patients presented some degree of alcohol intoxication. Some 13.36% (n=47, CI 9.8-16.8) of these reported to have consumed alcohol during the 6 hours leading up to the time of injury, whilst 87% (n=306) did not state this.

The cannabis test (THC) was positive in 13.6% (N=242/n= 33, CI 9.3-17.9) of those traumatized, being 3.3% (N=242/n=8, CI 1.0-5.6) in the cocaine test, and 4.2% (N=166/n=7, CI 1.1-7.3) for the benzodiazepine test. In fact, the number of patients who underwent the respective tests differed for each drug where these losses were either due to refusal to do the test, or to situations arising from the injury rendering spontaneous collection impossible (e.g. pain, walking difficulties etc.).

Only 9.9% (n=35, CI 6.8-13.0) of patients interviewed reported having consumed a drug of some kind in the 24 hours preceding the trauma.

Questionnaire on drugs use

Eleven percent (n=39, CI 7.7-14.3) of patients presented positive results in the DUDIT while 15% (n=53, CI 11.3-18.7%) of patients, out of a total of 353 subjects who underwent the DAST, had some degree of drugs-related problem.

All items in both scales were found to correlate significantly with the total scale - evidence that the item measurement reflected the full scale. The DUDIT scale (Cronbach's alpha) confidence value stood at 0.89, where this was 0.92 for the DAST scale, where both values were considered good. (Table 1).

Violent Injuries

Approximately 14% (n=49, CI 10.3-17.5) of the injuries were considered violent, namely those wounds or injuries caused intentionally and/or deliberately by third parties. The vast majority of patients deemed their injuries non-intentional, 84.1% (n=297).

Analysis of explicative variables for violent injuries

Violent episodes occurred predominantly amongst the younger age group. The average age in connection with violent injuries was 29.74, whereas for non-violent injuries this was 36.43. (t=2.648, p=0.008).

There was no significant difference in level of schooling between the violent trauma group (mean=8.71, SD=4.33, t= - 0.336 p=0.73) and the non-violent trauma group (mean=47, SD=4.7).

However, a link between patient gender and violent injuries was identified. In men, 17.4% presented violent injuries whilst this rate approached only 7% for women.

Rates of violent injury within the workplace were lower than those outside it. Approximately 19% of violent injuries occurred outside the work place, whilst only 3% took place within the work environment. As shown by Table 2.

Moreover, there was a positive association between the DUDIT result and violent injury. Around 25.6% of patients who were positive in the DUDIT presented violent injury, whilst only 12.4% of those with negative DUDIT values had violent injury. With regard to the DAST, those patients who had some degree of drugs-related problem were found to have more violent injury than those who had no drug problems. These differences however, were not statistically significant.

A link between diagnosed alcohol intoxication, alcohol ingestion 6 hours prior to trauma and a positive breathalyzer result, with violent injury, was observed. Some 36.4% of those intoxicated presented violent injury, whilst 11.4% of non-intoxicated subjects had such violent injury. In relation to alcohol ingestion prior to injury, around 32% of those who had drunk in the 6 hours prior to the episode, presented violent injury, while 11% of those who had not drunk over the same period presented them. Those who returned positive breathalyzer readings (8.5%) presented more violence-related injuries than those individuals with negative breathalyzer results (10.8%), as shown in Table 3.

An association was found between the tests for THC, Cocaine, BZP and DUDIT result, with violent injuries, since 28.2% of patients proving positive in the THC, Cocaine and BZP tests also presented violent injuries, while 14.3% of individuals with negative test results had such violent injuries. Similarly, 25.6% of those proving positive in the DUDIT presented violent injury, while 12.4% of those with negative results had violent injury. (Table 4)

The final model achieved by the Stepwise Backward method is shown in Table 5, whereby non-significant variables were removed, through use of the test based on Wald statistics, until an acceptable model was obtained. The sample used in order to perform logistic regression analysis comprised 242 cases

containing data on THC screening, cocaine and BZP, given that not all 353 initial cases underwent the tests.

Three risk factors were identified in this study which can be associated to violent injury. The variables of male gender (OR = 3.1), positive breathalyzer result (OR=2.3), and trauma outside the work place (OR=11.1) represent positive risk factors that increase the likelihood of violent injury. (Table 5)

The age variable, tests for THC, cocaine and BZP and results from DUDIT and DAST scales were not statistically significant.

DISCUSSION

It is important to note that a positive drug test does not necessarily indicate abuse or dependency. Nevertheless, as suggested in other studies, we deem it important that patients presenting positive toxicological tests and/or investigative questionnaires in situations involving injuries be referred for formal assessment following a brief intervention at the locale where care has been given. (Monti et al., 1998, Heather et al., 1996).^{12, 18.} Although neither of the two scales used in this study have yet been validated in Brazil for the purposes of drugs investigation, both have demonstrated good reliability, and similar results to those of toxicological tests.

The prevalence of psychoactive substance use seen in the ER, in addition to the three risk factors of violent trauma observed in the present study, are akin to those cited in the International literature. Data and research of this nature remains extremely rare in Brazil, therefore the present study paves the way for future estimates on a national scale.

A finding we deem especially relevant in this study is that 13% of those traumatized proved positive for cannabis, almost on a par with alcohol involvement, which stood at 11%.

Cannabis use has risen considerably over the past 15 years. (Menetrey et al., 2001).¹⁷ One of the greatest problems in connection with its use is that of driving under the influence of drugs. With the exception of alcohol, most epidemiological studies have shown that cannabis is the substance most often detected in those individuals suspected of driving under the influence of drugs. Young motorists are at greater risk. A recent review on cannabis use and driving, stresses that studies have shown that the substance significantly affects drivers' judgment when used alone, and has an augmented effect when combined with alcohol, such that, to date, it remains the psychoactive drug most involved in road-traffic accidents, whilst having no structured response from authorities to tackle the problem. (Okane et al., 2002).¹⁹

In the first national survey on the use of psychotropic drugs, carried out in 107 Brazilian cities in 2001 by CEBRID (Brazilian Information Center on Psychotropic Drugs), reveals an alarming 2% of interviewees reporting involvement in traffic accidents whilst under the influence of a psychotropic substance, which equates to an estimated population of some 923,000 individuals. A further 3.3% of the sample reported falls resulting from the use of psychotropic substances and almost an equal proportion (3.0%) reported to have injured themselves in the same circumstances.⁵

Notably, this study shows that a positive breathalyzer result constitutes a risk factor associated to the likelihood of a violent injury taking place. Conversely, the same increased likelihood cannot be determined for positive drugs tests, as despite there being a trend toward this association; it does not reach statistical significance. The breathalyzer test proved to be a useful and easy to use instrument. The research team encountered no difficulties in performing the breathalyzer test even though this test is not an integral part of ER routine in Brazil. Some difficulties were experienced when collecting urine samples for testing, as many people refused to cooperate because of circumstances connected with the

trauma (e.g.: pain, difficulty in walking) and also because reluctance due to their use of illegal substances.

Several International studies have managed to establish this relationship in a consistent manner. For instance, the study by Cunningham et al. (2003) assessed a sample of 320 patients in trauma situations within an ER and found that patients with a history of alcohol and illicit drugs use had a 6.2 times greater chance of being involved in acute violence, while those with no such history of alcohol and illicit drugs use were only twice as likely under the same circumstances. As is the case for the present sample, men had reported significantly more situations of violence than had women (OR= 2.0) in the study cited above.¹⁰

Chipman et al. (1995) showed that variables such as drugs use, measures of alcohol ingestion prior to accidents, and reports of the co-existence of chronic illnesses were consistently associated to trauma.⁸

Barbone et al.(1998), based on a sample of 19386 persons involved in road-traffic accidents, found 235 users of benzodiazepines (OR = 1.62 (CI: 1.24-2.12)) to be at greater risk of becoming involved in road-traffic accidents, where these chances increased with concomitant presence of a positive breathalyzer result.²

Dussault et al. (2001), found 1.1% of cases to be positive for cocaine in urine samples and 1% in saliva samples, taken from 11, 952 drivers involved in car accidents. Despite the limitations of the data, the authors clearly suggest that cocaine plays a role in fatal accidents.¹¹

Within some developed countries, drug screening is commonly undertaken in patients admitted to ER who are suspected of intoxication or drugs use (Bast et al., 2000). However, this practice is often questionable given that these tests are costly and may lead to false-negative results in detecting the use of low doses of drugs. Despite some evidence that toxicological screening may be unnecessary or of unproven cost-effectiveness, the authors believe the use of breathalyzers

and toxicological screening should become a practice fostered by emergency rooms, in a bid to prevent possible morbidity and future burden.³

Traffic education and preventing the use of alcohol and drugs from a young age, through ongoing campaigns and programs implemented in schools, have been strategies employed by incumbent authorities, in an effort to create more responsible drivers and youngsters who are better prepared to make more educated behavioral choices on substance use. It is clear that these measures have yet to show solid evidence of success, but make up an integral part of the preventative and socio-educative approaches which are being adopted on a large scale in the country, and which should be assessed over the long term regarding their impact. However, other measures should be included such as the levying of fines, more intensive vigilance on public roads and motorways at key times, and improved training of emergency room teams. Greater deployment of resources on motorways and roads, and not only at times of large public festive events such as carnival when there is an increase in the consumption of psychoactive substances, in addition to community interventions together with a review's legislation and enforcement, are just some measures which may be incorporated into Brazil's alcohol and drugs policy.

Our center elected to exclude those patients who were minors, a group nevertheless, which warrants attention in future studies in the ER.

CONCLUSION

The use of substances in those individuals suffering injury is highly prevalent. Proper approaches for these cases are important with a view to reducing the use of these substances and their consequences.

It is necessary to implement an effective data collection system by means of more thorough and broad epidemiological vigilance in injury situations involving alcohol and drugs. This can enable the establishment of priorities in the

development and planning of preventative and remedial policy in health, based on the identification of high risk populations (younger patients, of male gender, residing in large metropolitan centers, with injuries taking place after midnight, and injuries due to violence), in a bid to eliminate situations known to be conducive to violence.

ACKNOWLEDGEMENTS AND FUNDING

This study was coordinated by the UNIAD (Alcohol and Drugs Research unit) of the Psychiatry department of the Federal University of São Paulo. The study received financial support from the World Health Organization/ WHO Department of Mental Health and Substance Dependence / Management of Substance Dependence team (MSD/MSB) in cooperation with the WHO Department of Violence and Injury Prevention (VIP) and support from Interfast/Phamatech in supplying materials for urine screening.

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TABLES

TABLE 1. DUDIT and DAST psychometric analysis. São Paulo, 2001.

DUDIT psychometric analysis			
Questions	Mean	Standard deviation	Total corrected item correlation
Frequency of use	0.31	0.90	0.75**
Quantity consumed	0.09	0.51	0.67**
Consumption of 3 or more doses	0.18	0.75	0.83**
Control of use	0.08	0.49	0.72**
Failure to keep promise	0.04	0.34	0.59**
Tolerance	0.07	0.49	0.75**
Feels blame or remorse	0.11	0.56	0.67**
Loss of memory	0.07	0.41	0.60**
Hurt or harm someone	0.03	0.32	0.39**
Somebody concerned over use	0.19	0.82	0.61**
Cronbach's Alpha			0.892
DAST psychometric analysis			
Use of unprescribed drugs	0.15	0.35	0.58**
Higher than prescribed doses	0.06	0.23	0.59**
Multiple drugs abuse	0.04	0.19	0.76**
Control without use for 7 days	0.02	0.15	0.65**
Able to stop when desired	0.02	0.15	0.73**
Blackouts or flashbacks	0.03	0.17	0.60**
Blame or remorse	0.05	0.21	0.61**
Complaints from partner	0.05	0.22	0.77**
Family problems from use	0.04	0.20	0.66**
Loss of friends	0.03	0.17	0.65**

Neglected family members	0.02	0.15	0.71**
Problems at work	0.02	0.13	0.65**
Lost job	0.01	0.09	0.45**
Involved in fights	0.01	0.12	0.60**
Involved in illegal activities	0.01	0.09	0.56**
Arrested for carrying drugs	0.01	0.12	0.71**
Withdrawal symptoms	0.02	0.15	0.70**
Clinical complications	0.01	0.11	0.58**
Requested help for drugs use	0.02	0.14	0.59**
Previous treatment for drugs use	0.03	0.20	0.42**
Cronbach's Alpha			0.929

TABLE 2. Association of socio-demographic variables and data on accidents with violent injury .São Paulo, 2001.

			Violent Injury			OR	Sig	CI 95%
			No	Yes	Total			
Gender	F	N	110	8	118			
		%	93.2	6.8	100			
	M	N	194	41	235	2.91	**	1.32-6.42
		%	82.6	17.4	100			
	Total	N	304	49	353			
		%	86.1	13.9	100			
Working	Yes	N	205	32	237			
		%	86.5	13.5	100			
	No	N	81	16	97	0.79		0.41-1.52
		%	83.5	16.5	100			
	Total	N	286	48	334			
		%	85.6	14.4	100			
Income	Low and very Low	N	212	34	246			
		%	86.2	13.8	100			
	Average to High	N	75	8	83	1.50		0.67-3.39
		%	90.4	9.6	100			
	Total	N	287	42	329			
		%	87.2	12.8	100			
Automobile accident	No	N	255	44	299			

		%	85.3	14.7	100		
	Yes	N	49	5	54		
		%	90.7	9.3	100		
	Total	N	304	49	353	0.59	0.22-1.57
		%	86.1	13.9	100		
Injury took place at home	No	N	250	38	288		
		%	86.8	13.2	100		
	Yes	N	54	11	65		
		%	83.1	16.9	100		
	Total	N	304	49	353	1.34	0.64-2.79
		%	86.1	13.9	100		
Injury took place at work	No	N	199	46	245		
		%	81.2	18.8	100		
	Yes	N	105	3	108		
		%	97.2	2.8	100		
	Total	N	304	49	353	8.09	** 2.46-26.64
		%	86.1	13.9	100		

- * Sig.< 0.05: there is a significant association between variables at 5 %
- **: Sig.< 0.01: there is a significant association between variables at 1 %

TABLE 3. Association of different recorded levels of alcohol consumption with violent injury. São Paulo, 2001.

		Violent injury							
			No	Yes	Total	OR	Sig	CI 95%	
Alcohol intoxication	Not intoxicated	N	281	36	317				
		%	88.6	11.4	100				
	Intoxicated	N	21	12	33				
		%	63.6	36.4	100				
	Total	N	302	48	350	4.46	**	2.03-9.82	
		%	86.3	13.7	100				
Drank 6 hours prior to injury	Yes	N	32	15	47				
		%	68.1	31.9	100				
	No	N	272	34	306				
		%	88.9	11.1	100				
	Total	N	304	49	353	3.75	**	1.84-7.62	
		%	86.1	13.9	100				
Breathalyzer	Negative	N	280	34	314				
		%	89.2	10.8	100				
	Positive	N	24	15	39				
		%	61.5	38.5	100	5,15	**	2.46-10.75	
	Total	N	304	49	353				

* Sig. < 0.05: there is a significant association between variables at 5 %

** : Sig. < 0.01: there is a significant association between variables at 1 %

TABLE 4. Association of different recorded levels of drugs and tobacco consumption with violent injury. São Paulo, 2001.

Variables		Violent injury			OR	Sig	CI 95%
		No	Yes	Total			
Use of tobacco							
in 24hours prior Does not use							
to contact	tobacco	N	228	32	260		
		%	87.7	12.3	100		
	Uses tobacco	N	76	17	93		
		%	81.7	18.3	100		
	Total	N	304	49	353	1.59	0.84-3.03
		%	86.1	13.9	100		
Used some drug							
in 24 hours prior							
to contact	No	N	277	41	318		
		%	87.1	12.9	100		
	Yes	N	27	8	35		
		%	77.1	22.9	100		
	Total	N	304	49	353	2.00	0.85-4.70
		%	86.1	13.9	100		
Drugs Test							
THC COC BZP	Negative	N	174	29	203		
		%	85.7	14.3	100		
	Positive	N	28	11	39	0	

		%	71.8	28.2	100		
	Total	N	202	40	242	2.36	* 1.06-5.25
		%	83.5	16.5	100		
DUDIT	Positive	N	29	10	39		
		%	74.4	25.6	100		
	Negative	N	275	39	314		
		%	87.6	12.4	100		
	Total	N	304	49	353	2.43	* 1.10-5.37
		%	86.1	13.9	100		
DAST	No problem	N	261	39	300		
		%	87	13	100		
	Has problem	N	43	10	53		
		%	81.1	18.9	100		
	Total	N	304	49	353	1.56	0.72-3.35
		%	86.1	13.9	100		

* Sig. < 0.05: there is a significant association between variables at 5 %

** Sig. < 0.01: there is a significant association between variables at 1 %

TABLE 5. Final Model of logistic regression in the study of risk factors for violent injury, São Paulo, 2001.

Variables	B	S.E	Wald	Df	Sig.	Exp(B) Odds Ratio (OR)	CI 95% for EXP(B)	
Gender (M)	1.150	0.463	6.176	1	0.013*	3.158	1.275	7.820
Breathalyzer (Positive)	0.836	0.448	3.481	1	0.062	2.307	0.959	5.554
Event occurred outside workplace	2.415	0.750	10.358	1	0.001**	11.191	2.571	48.708
Constant	-3.776	0.961	15.427	1		0.023		

The prognostic equation found is: $PF=1.15(\text{Male Gender}) + 0.836(\text{Positive Breathalyzer}) + 2.415 (\text{The trauma occurred outside the work place}) - 3.776$. $PV=$ probability of violent trauma 1: Violent trauma. 0: Non-violent trauma

São Paulo, 16 de novembro de 2004.

CARTA AO EDITOR

Referente ao manuscrito 4579

Risk factors associated to psychoactive substance consumption in emergency room patients admitted for non-fatal violent injuries – Analysis of data from WHO Collaborative Multi-country Study.

Caros Editores da Revista de Saúde Pública da USP

Atendendo as solicitações realizadas na pré-análise do manuscrito 4579, estamos enviando a nova versão do artigo acrescida das sugestões realizadas e modificando o título do manuscrito previamente enviado a fim de ser apreciada sua publicação como artigo original nesta revista. Mantemos os mesmos compromissos, responsabilidades e transferência de direitos autorais já declarados anteriormente.

Trata-se de um estudo multicêntrico em colaboração com a Organização Mundial da Saúde e que teve a participação de 12 centros. O protocolo original priorizava a associação de álcool e traumas. O diferencial no centro brasileiro foi o acréscimo de screenings de urina para canabis, cocaína e benzodiazepínicos além de dois questionários para investigar o uso de drogas.

Percebe-se que na literatura internacional há uma associação bastante rica e bem estabelecida entre álcool, substâncias psicoativas com traumas e salas de emergência. No âmbito nacional, entretanto, os dados são ainda escassos e centrados para o álcool. Obviamente por ser esta a substância mais largamente consumida e mais freqüentemente relatada em envolvimento de trauma e violência. Já os dados são quase inexistentes sobre esta associação com canabis e cocaína.

Acreditamos que este artigo venha a contribuir com uma parcela de dados nacionais para uma temática bastante importante e de crescente interesse em saúde pública a qual é, sobretudo passível de prevenção.

Atenciosamente

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