

Management of patients with substance use illnesses in psychiatric emergency department

Manejo do paciente com transtornos relacionados ao uso de substância psicoativa na emergência psiquiátrica

Ricardo Abrantes do Amaral,¹ André Malbergier,¹ Arthur Guerra de Andrade^{1,2}

¹ Department of Psychiatry, Medical School, Universidade de São Paulo (USP), São Paulo, SP, Brazil

² Department of Psychiatry, Faculdade de Medicina do ABC, Santo André, SP, Brazil

Abstract

Objective: Substance use disorders are prevalent in the emergency departments of medical and psychiatric services, accounting for up to 28% of cases in medical emergency departments. However, emergency department professionals identify less than 50% of the cases of alcohol-related problems. This article aims to provide evidence-based interventions for the specific treatment of patients who meet diagnostic criteria for substance use disorders and who present to emergency rooms during intoxication or withdrawal. **Method:** A literature review was performed on the Medline database, using the English descriptors “acute intoxication”, “withdrawal”, “alcohol”, “cocaine”, “cannabis”, “opioid”, “inhalant”, and “management”. **Results and Conclusion:** The management of patients with substance use disorders should include a comprehensive assessment (medical and psychiatric), treatment of diagnosed disorders (withdrawal, intoxication, and clinical features that characterize an emergency), awareness of the patient to start treatment if necessary, and referral.

Descriptors: Substance-related disorders; Emergency services, psychiatric; Intoxication; Withdrawal; Management

Resumo

Objetivo: Transtornos por uso de substâncias são prevalentes em setores de emergência gerais e psiquiátricos, atingindo taxas de 28% das ocorrências em prontos-socorros gerais. Todavia, profissionais dos setores de emergência identificam menos que 50% dos casos de problemas relacionados ao álcool. Este artigo visa fornecer base fundamentada em evidências para o tratamento específico a pacientes que preenchem os critérios diagnósticos de transtornos por uso de substâncias e que se apresentam ao pronto-socorro em quadros de intoxicação ou abstinência. **Método:** Uma revisão sobre o tema foi realizada na base de dados Medline, usando-se os descritores “intoxicação aguda”, “abstinência”, “álcool”, “cocaina”, “cannabis”, “opioides”, “inalantes” e “manejo”, tendo o inglês como idioma. **Resultados e Conclusão:** O cuidado de pessoas com transtornos por uso de substâncias deve conter: avaliação completa (médica geral e psiquiátrica), tratamento dos quadros diagnosticados (abstinência, intoxicação e quadros clínicos que caracterizem uma emergência), sensibilização do paciente para realizar tratamento, se for necessário, e elaboração de encaminhamento.

Descritores: Transtornos relacionados ao uso de substâncias; Serviços de emergência psiquiátrica; Intoxicação; Abstinência; Manejo

Introduction

Substance use disorders (SUD) are prevalent in emergency services (general emergency rooms - GER). Approximately 374.000 patients aged over 12 were admitted in emergency services due to SUD in the United States in 2008, which represents 8.5% of all SUD-related interventions in that country in that year.¹

In Brazil, 6% of the population (11 million people) suffer from severe SUD.² Data regarding SUD cases attended in GER come mainly from university centers. Among the patients assisted in the referral area of the city of Ribeirão Preto-SP between 1998 and 2004, 28.5% of cases admitted in psychiatric emergency units (PEU) and 6.9% of admissions in psychiatric wards of general hospitals were SUD-related.³

The use of substances itself is a prevalent problem, but it is also connected with other health problems. In GER admissions, alcohol is associated with almost 70% of homicides, 40% of suicides, 50% of car accidents, 60% of fatal burns, 60% of drowning cases, and 40% of fatal falls.⁴⁻⁶ Besides the external causes, alcohol was also associated with a number of conditions including hypertension, cerebrovascular accident (CVA), diabetes, liver and stomach diseases, and breast and esophageal cancer.⁷

The use of cocaine/crack is associated with respiratory problems, precordial pain, cardiocirculatory problems, and hyperthermia. Ecstasy (3,4-methylenedioxymethamphetamine) is associated with hyponatremia and rhabdomyolysis,⁸ in addition to cardiovascular

Correspondence

André Malbergier
Rua Capote Valente, 439/81
05409-001 São Paulo, SP, Brasil
Email: amalbergier@uol.com.br

problems and hyperthermia. Many of the drug-related deaths occurring in emergency services involve the use of two or more substances, often simultaneously, i.e. these patients are polyusers.⁹

This article is aimed at providing evidence-based foundations for the specific treatment indicated for patients fulfilling diagnostic criteria for SUD according to the International Classification of Diseases and Related Health Problems 10th revision (ICD-10) of the World Health Organization (WHO) in urgency and emergency situations.

Method

The recommendations presented in this article follow the classifications and guidelines defined by the American Psychiatric Association¹⁰ (APA) and the American College of Emergency Physicians.¹¹

Data were collected by means of a critical literature review performed in the Medline database using the descriptors: “acute intoxication”, “abstinence”, “alcohol”, “cocaine”, “*cannabis*”, “opioids”, “inhalants”, and “management”. Empirical and review articles written in English were selected.

General recommendations

A thorough psychiatric assessment is crucial to guide the management of SUD patients. This assessment should include¹⁰:

- 1) detailed current and past history of the use of substances and of their effects in the cognitive, psychological, and physiological functioning of the patient;
- 2) general and psychiatric medical history and general physical examination;
- 3) history of previous psychiatric treatments and therapeutic response;
- 4) family and social history;
- 5) screening of the substance used in blood, breath, or urine;
- 6) complementary laboratory tests to confirm the presence or absence of conditions that often co-occur with substance use, such as electrolytes disturbances, complete blood count, electrocardiography (ECG), etc.;
- 7) with the patient’s consent, a person able to provide additional information should be contacted.

The emergency care for acute patients or for patients requiring intensive psychiatric care should be conducted in the primary care level, at GER or PEU.¹² The initial intervention for SUD in GER or PEU is justified by the primarily clinical nature of intoxication and withdrawal episodes. The results of routine toxicology screens in alert, cooperative patients with normal vital signs do not affect the management of the patient in GER. Similarly, the existence of toxicology screens should not delay the psychiatric evaluation or the transference of these patients to psychiatric services.

Acute intoxication

Intoxication is characterized by the onset of specific syndromes related to the recent intake of (or exposure to) substances. The treatment of acute intoxication is aimed at stopping or reducing the acute effects of the substance.

Detoxification in GER/PEU is not intended at treating psychological, social or behavioral issues resulting from or associated with the use of the substance.¹³ Nevertheless, the emergency physician should be aware that GER/PEU are the first treatment facilities sought for by many patients and that detoxification is part of the continuum of care in SUD.¹⁴ Emergency care teams identify less than 50% of cases related to the use of alcohol, and even experienced professionals are unable to correctly identify more than 50% of patients intoxicated by alcohol.¹⁵

Intoxication refers to the abnormal functioning of the central nervous system (CNS) and of other systems due to the use of substances. Impairment refers to the inability to perform daily activities.¹⁶ According to these definitions, three basic conditions can be established for the management of patients:

1. Intoxication without mental disorders, including chemical dependence.

Management of the intoxication and general orientation.

2. Intoxication with suspected diagnosis of chemical dependence, with no other psychiatric disorder.

Management of the intoxication, diagnostic assessment for SUD, sensitization of patient and family, referral to treatment.

3. Intoxication with psychiatric comorbidity and chemical dependence.

Management of the intoxication, diagnostic assessment for SUD and other psychiatric disorders, sensitization of patient and family, referral to treatment.

The guidelines for the treatment of SUD of the APA¹⁰ recommend the management of intoxication with the following objectives:

- in cases of intense intoxication, reducing exposure to external stimuli, providing confidence, guidance, and reality testing in a safe and monitored environment;
- investigating which substances have been used, routes of administration, doses, time since the last dose, and whether the intoxication level is increasing or decreasing;
- removing the substance from the body (by means of gastric lavage – if use of the substance occurred recently – or by increasing excretion rates);
- reversing the effects of the substance with the administration of antagonists (e.g., naloxone for heroin overdose) aimed at displacing the substance from receptors;
- stabilizing the physical effects of the overdose (i.e., intubation to reduce the risk of aspiration and use of medication to keep blood pressure levels within acceptable ranges).

At discharge, it must be clear that all substances have been eliminated so that the patient is able to regain control. If there are doubts in this regard, it is necessary to investigate the availability of relatives or caretakers who are able to understand the patient’s difficulties and needs, especially in cases of dependence.

Detoxification is a form of palliative care (one that reduces the intensity of a given disorder) and for some patients it is the very first contact with treatment and the first step toward recovery.

The decision concerning the most adequate place to continue the treatment involves controversies; however, there are some considerations that might be useful to guide this process, as described in Table 1.

1. Alcohol

The clinical presentation of intoxication by alcohol is quite diverse, depending mainly on the blood alcohol content and on the tolerance level developed by the patient. Additional aspects such as feeding status, alcohol intake rate, and environmental factors can also play a relevant role.

Blood alcohol contents between 20mg% and 80mg% (approximately two to four measures) cause impaired muscle coordination, mood and behavioral alterations, and increased motor activity. Levels between 80mg% and 200mg% are associated with progressive neurological alterations, including ataxia and slurred speech. Cognitive functions are also impaired. Blood alcohol levels higher than 150mg% require the monitoring of vital signs in a quiet and safe environment, and the patient's airways must be kept unobstructed¹⁰ because of the risk of aspirating vomit that increases along with blood alcohol levels.¹⁷

The indication of intravenous infusion of normal saline is restricted to the occurrence of dehydration and intravenous hypertonic glucose is only justified in the case of hypoglycemia.¹⁸ The prescription of hypertonic glucose should be preceded by the administration of thiamine to avoid the risk of Wernicke's encephalopathy in patients with thiamine deficiency.

With blood alcohol levels above 300mg%, hypothermia and impaired level of consciousness are probable, except in individuals with increased tolerance. The occurrence of coma starts at levels between 400mg% and 600mg%, varying according to individual tolerance. Although there are exceptions, blood alcohol contents in the 600-800mg% range are usually fatal. At this point, complications ensuing from respiratory, cardiovascular, and body temperature control failure are observed. Alcohol is not absorbed by activated carbon and therefore its use is not indicated in the treatment of intoxication by alcohol.

The alcohol elimination rate from the body is 10-30mg% per hour. Accordingly, the treatment of alcohol intoxication is

aimed at preserving the respiratory and cardiovascular functions until alcohol levels in the blood are within a safe range. Severely intoxicated patients and patients in a coma resulting from the use of alcohol should be followed-up like any other patients in a coma, with special attention to the monitoring of vital functions, preserving respiration and avoiding the aspiration of gastric contents, hypoglycemia, and thiamine deficiency. The use of other drugs or factors that could contribute for the maintenance of the state of coma must be investigated. Ideally, agitation is better managed by using interpersonal and nursing approaches instead of additional medication, which may complicate and delay the elimination of alcohol.¹¹ Nevertheless, situations in which psychomotor agitation is so intense as to pose risk for the patient and staff members may require the use of potent antipsychotic medication at low doses.

2. Cocaine and other stimulants

The acute effects of stimulants in general are well known. The physiological responses to these substances include pupil dilation and increased arterial blood pressure, heart and respiratory rate, body temperature, alertness, and motor activity.¹⁹ Stimulants are generally used in bingeing episodes followed by periods of abstinence.

The intoxication is usually self-limited and requires only monitoring and support interventions.¹⁰ The same procedure has been proposed for amphetamine intoxication. Nevertheless, hypertension, tachycardia, seizures, and persecutory delusions may occur in the intoxication by cocaine and require specific treatment.¹⁰ Some cases of extremely intense psychomotor agitation, hyperthermia, aggressiveness, and hostility have been reported following the use of cocaine ("excited delirium"). This presentation, probably caused by an imbalance in dopamine pathways, must receive intensive care in the hospital environment, since there is risk of death.²⁰

Agitated patients can be treated with benzodiazepines, neuroleptics or associations of these drugs.²¹ Intramuscular or intravenous administration is indicated when the patient refuses to take the medication by oral administration, which can happen in situations of intense psychomotor agitation and aggressiveness.²²

Table 1 – Considerations for the indication of inpatient or outpatient detoxification

| Consideration | Indication |
|--|---|
| Capacity to attend the service activities everyday | Required for outpatient detoxification |
| Previous history of delirium tremens or seizures during withdrawal | Outpatient detoxification contraindicated; probable relapse; under specific conditions, it is possible to try outpatient detoxification |
| Incapacity to provide consent | Safe environment/hospitalization |
| Risk of suicide/homicide/psychotic symptoms | Safe environment/hospitalization |
| Capacity/motivation to meet treatment requirements | Safe environment/hospitalization indicated if patient is unable to meet treatment requirements |
| Co-occurrence of medical conditions | Unstable medical conditions such as diabetes, hypertension, or pregnancy: relatively high risk for outpatient detoxification |
| Caretaker availability | Not essential, but advisable for outpatient detoxification |

Source: Miller e Kipnis, 2006.⁴⁸

The presence of precordial pain may be associated with acute myocardial infarction (AMI), justifying an evaluation comprising electrocardiography, complete blood count, liver and kidney functions, electrolytes, and creatine phosphokinase-MB (CPK-MB).^{23,24} The use of propranolol in patients with AMI and acute cocaine intoxication is questionable,²⁵ as well as the use of dopaminergic antagonists.^{26,27}

Patients with precordial pain, unstable angina or AMI associated with the use of cocaine should be treated as regular cases of acute coronary syndrome (ACS).²⁸

Clinical complications of the intoxication by cocaine and other stimulants include hyperthermia, quick and irregular increase in the heart rate, brain hemorrhage, seizures, respiratory insufficiency, CVA, and cardiac insufficiency.¹⁹ The pharmacological action and the stimulating effects of cocaine can be potentiated by alcohol. The alcohol-cocaine association has a stronger chronotropic effect than cocaine alone.²⁹

Differently from other substances, the user of stimulants may develop a process of sensitization in relation to the substance. Thus, as seen in animal studies, repeated exposure may cause the patient to have seizures as the results of use patterns that were previously considered harmless. There are reports concerning the risk of hyperthermia associated with the use of ecstasy. As in the case of cocaine, this risk does not seem to be related to the dose of the substance, but rather to muscle hyperactivity, to the direct effects of the substances on serotonergic, dopaminergic, and adrenergic pathways, to the co-intake of other stimulants, and to individual vulnerability.³⁰

The intake of high doses of amphetamines may require gastric lavage and the use of activated carbon, provided that the intoxication is recent and taking into account the absorption period of the substance, of around 30 minutes.³¹

The presence of hypertension, seizures, and persecutory delusions in some patients who use stimulants may require specific treatment.

3. Benzodiazepines

Benzodiazepines act as CNS depressors with acute intoxication effects similar to those of alcohol. The risk of respiratory depression due to intoxication by benzodiazepines is important. However, this effect, as well as hypotension and bradycardia, tends to be more pronounced when the intoxication is associated with other substances. Although the excessive intake of benzodiazepines alone rarely induces deep coma and death, the patient may require assisted ventilation. Flumazenil, a specific benzodiazepine antagonist, can be employed in severe cases with associated neurological or respiratory depression. The initial dose of 0.3mg IV can be followed by additional doses up to the limit of 2mg. In case this dose proves unable to reverse the patient's condition within 5-10 minutes, other causes should be considered for CNS depression. Flumazenil has a shorter effect as compared with benzodiazepines. Therefore, the effects of the antagonist may be over before the intoxication has been overcome. In patients taking tricyclic antidepressants or other agents like aminophylline or

cocaine, which involve the risk of seizures, the use of flumazenil is contraindicated.³¹

4. Marijuana

Marijuana is the most used illicit substance worldwide.³² Its acute effects may include psychotic symptoms and acute anxiety episodes resembling panic attacks. Anxiety symptoms are usually more common when high doses are used, in beginning users, or when the substance is used in novel environments or under distressing conditions. For a review on this topic, we suggest the article by Crippa et al.³³ The presence of anxiety symptoms is one of the main reasons leading marijuana users to seek treatment. The treatment of these symptoms is primarily based on benzodiazepines, preferably orally administered.

Marijuana intoxication may cause aggressive behaviors, often due to the distorted perception of reality resulting from anxiety or paranoid ideation.³⁴⁻³⁶ The treatment of psychotic symptoms associated with the use of marijuana follows the same basic principles that apply to the treatment of these symptoms in cocaine users.

5. Opioids

The treatment of acute intoxication by opioids should be based on the severity of the intoxication episode.³⁷ In mild to moderate cases, specific treatment is usually not necessary.¹⁰

Overdose should be considered in the presence of important myosis and bradycardia, respiratory depression, stupor, or coma. In these situations, hospitalization at an emergency department is recommended and the emergency physician must consider the need for support ventilation. Overdoses of long half-life opioids such as methadone, on the other hand, require greater attention. The patient must remain in observation status for 24-48 hours and respiratory depression, which can be fatal, should be treated with naloxone. The drug can be administered orally or intravenously and the dose should be defined in accordance with the substance dependence status and the severity of respiratory depression. In patients with CNS depression but no respiratory depression, the initial dose recommended is 0.05-0.4mg IV. Lower doses are used in patients addicted to opioids because of the risk of severe withdrawal syndrome associated with higher doses.³⁸ Patients with severe respiratory depression, whether or not fulfilling criteria for dependence, should be medicated with 2.0mg IV. The response is expected within two minutes and the dose can be repeated every three minutes until the reversal of CNS or respiratory depression. Naloxone doses can be repeated up to the limit of 10mg IV³⁹ and, in case the respiratory depression is not reversed with this dose, the hypothesis of opioid overdose should be reconsidered.

6. Solvents

The mechanism of action of solvents cannot be clearly defined because of the variety of substances included under this umbrella term. From the clinical point of view, however, solvents are CNS depressors. The initial symptoms of intoxication include euphoria and disinhibition, which can be associated with clicking and

buzzing sounds, ataxia, inappropriate laughter, and slurred speech. Progressively, central depression may manifest through mental confusion, disorientation, and hallucinations. The condition can develop with reduced alertness, motor incoordination, and worsening of hallucinations. The risk of seizures, coma, and death must be considered. Cardiac monitoring is important because solvents have a direct action on the heart and may cause arrhythmia. There is no consensus regarding the development of tolerance and withdrawal crises related to the use of these substances.

Withdrawal

1. Alcohol

The symptoms of alcohol withdrawal syndrome (AWS) generally begin within 4-12 hours after use cessation or reduction. The intensity of AWS reaches its peak on the second day and ends in four or five days. Between 70% and 90% of AWS patients have tremors, gastrointestinal discomfort, anxiety, irritability, elevated arterial blood pressure, tachycardia, and overactivity of the autonomic system. Seizures, hallucinations, and delirium are less frequent. The occurrence of these symptoms characterizes AWS as a severe condition whose treatment involves efforts to reduce CNS irritability and to restore physiological homeostasis.¹⁰ Recommendations for these cases include the administration of thiamine, maintenance of the water balance, and the use of benzodiazepines, preferably via oral administration (e.g., chlordiazepoxide 50mg every two to four hours; diazepam 10-20mg every two to four hours, or lorazepam 1-4mg every two to four hours) and, for some patients, anticonvulsants, clonidine, and antipsychotics.¹⁰

The chronic use of alcohol can be related to a number of clinical conditions, including Wernicke's encephalopathy resulting from acute thiamine deficiency. Only a small fraction of cases (around 15%) is identified before death occurs.⁴⁰ Nonetheless, Wernicke's encephalopathy can be clinically diagnosed and its existence should be considered in cases of nutritional deficiency, nystagmus, ataxia, and mental state alterations.⁴¹ Intravenous thiamine in these cases is indicated in doses of 50mg diluted in 100ml of saline and infused for 30 minutes, three times a day, for two or three days.⁴² If there is no positive response, the scheme should be maintained for two or three more days. After improvement is observed, the dose should be adjusted to 250mg IM or IV/day for another three to five days. Thiamine should be administered prior to or during the administration of glucose, since glucose alone may precipitate the worsening of encephalopathy in patients with thiamine deficiency. Some cases of itch and anaphylactic reactions following the administration of thiamine have been reported in retrospective studies.⁴² If treatment is inadequate or absent, Wernicke's encephalopathy may evolve to a condition involving irreversible brain damage, Korsakoff's syndrome.

The use of beta blockers or clonidine for short periods can be of help in the treatment of withdrawal symptoms, although their effects may mask the severity of AWS.¹⁰ When the patient is deemed stable, medications should be progressively discontinued, with sustained attention to the relapse of withdrawal symptoms.

Around 3% of patients with severe AWS develop delirium tremens (DT) up to 72 hours after the use of the last dose. DT may last from 2 to 10 days and is characterized by alterations in the level of consciousness, depersonalization, and dysphoric mood, oscillating between apathy and intense agitation and even aggressiveness. Approximately 10-15% of patients with DT have tonic-clonic seizures.

After discharge from the GER/PEU, the patient can be referred to hospitalization (cases of complex withdrawal syndromes) or to outpatient follow-up (mild to moderate cases). The Psychosocial Attention Center for Alcohol and Drug disorders (CAPS-AD, in the Brazilian Portuguese acronym) is the unit indicated to follow-up SUD cases associated with harmful use and dependence after discharge from GER/PEU or from a hospital. It is important to ensure the availability of the relevant service to continue the treatment.

2. Cocaine and amphetamine

The occurrence of anhedonia and craving after cocaine cessation is common. There is still no consensus regarding the clear definition of withdrawal episodes and their duration. In general, the condition is described as having three phases. The first phase, denominated "crash", lasts from a few hours up to five days and is characterized by intense craving in the beginning, irritability, and agitation, evolving with hypersomnolence, depression, anhedonia, and exhaustion, followed by a reduction in craving. Abstinence is the second phase, which begins with the relapse of craving and with depression and anxiety symptoms, lasting up to 10 weeks. After this period, the third phase involves a gradual reduction in craving and the tendency to normalize mood, sleep, and anxiety.⁴³

Pharmacological treatments are rarely beneficial in the management of cocaine withdrawal symptoms.

3. Benzodiazepines

Benzodiazepine withdrawal symptoms are related to the sudden discontinuation in the use of these substances. Among the factors contributing to withdrawal issues are the prolonged use of high doses, although patients taking therapeutic doses have reported withdrawal symptoms.⁴⁴ Benzodiazepines should be withdrawn in a progressive and planned manner. Symptoms such as anxiety, insomnia, headaches, anorexia, nausea, vomiting, tremor, orthostatic hypotension, and weakness may appear between 1 and 11 days after withdrawal.³¹ The treatment of withdrawal symptoms consists of the administration of phenobarbital (30mg) equivalent to 10mg of diazepam, 30mg of chlordiazepoxide, 1mg of lorazepam, and 1mg of alprazolam. After stabilization, progressive reduction is recommended in the daily rate of 10% of the initial dose. The conversion of the benzodiazepine dose into diazepam equivalents, with progressive daily reductions of 10%, is also indicated.³¹

4. Marijuana

The interest in the treatment of marijuana dependence has increased as a function of results from animal models and clinical

trials showing the occurrence of marijuana withdrawal syndrome in heavy and chronic users. The most common symptoms in marijuana withdrawal are irritability, appetite alterations, weight loss, and physical discomfort. Studies on the treatment of marijuana-related disorders are still limited and no specific pharmacological treatment has been recommended to date.¹⁰ It is important to highlight that the use of marijuana may trigger psychotic episodes in vulnerable individuals.⁴⁵

5. Opioids

The objective of the treatment of opioid withdrawal syndrome is to help patients in the transition from dependence to long-term treatment. The use of standardized scales to assess the severity of withdrawal symptoms is useful in managing cases (Table 2). The occurrence of signs such as mydriasis, increased systolic blood pressure (10mmHg), increased pulse (10 beats per minute), and a set of symptoms including sweating, chills, yawning, pain throughout the body, diarrhea, rhinorrhea, and tears should be considered in the decision for the treatment with methadone. It is crucial to emphasize that this treatment must not be conducted with continued monitoring of the clinical status and medication use. The maintenance of methadone replacement is not recommended outside of the hospital environment.

Clonidine, the second-line indication in specific cases such as previous methadone abuse, can be used in doses of 0.1-0.3mg divided in three doses. There is no consensus on the clinical efficacy of clonidine to treat opioid withdrawal syndrome. It must be stressed that this alpha-2 adrenergic agonist, unlike methadone, has no effects on the craving for opioids.³⁷ Sudden and relevant drops in arterial blood pressure have been reported in patients who are sensitive to clonidine. Therefore, patients taking clonidine must have their vital signs kept under strict control. The use of clonidine is contraindicated for patients with a recent history of CVA or heart disease and during pregnancy.³⁷

Brief intervention

The admission of alcohol and drug users at emergency services can be an opportunity to increase the awareness of the patient in

relation to the use of substances, risk behaviors, and medical and psychosocial consequences of the use of psychoactive substances.⁴⁶ Intervention strategies can be delivered in individual sessions of 5-15 minutes aimed at motivating the patient in relation to the treatment.⁴⁷ According to Cunningham et al., additional evidence is necessary regarding the duration, performance, and intensity of interventions.⁴⁶

Conclusion

The main objective of this review was to present and discuss current evidence on good practices for the management of substance intoxication and withdrawal symptoms. The lack of specialized services in the area of alcohol and drugs and of experienced professionals in GER might hamper the implementation of adequate practices and should be a matter of concern for mental health professionals in the organization of emergency services.

The high prevalence of SUD in the population and the frequent necessity of individuals suffering from these conditions to seek emergency departments justify this priority.

Table 2 – Signs and symptoms of opioid withdrawal syndrome according to the time elapsed since cessation

| Anticipatory phase (3-4 hours after cessation) | Baseline (8-10 hours after cessation) | Total phase (1-3 days after cessation) | Late phase (up to 6 months) |
|---|--|---|--------------------------------|
| Fear of opioid lack | Anxiety | Severe anxiety | Hypotension |
| Drug-seeking behavior | Restlessness | Tremor | Bradycardia |
| Anxiety | Yawning and sneezing | Restlessness | Energy loss |
| Craving | Sweating | Piloerection | Decreased appetite |
| | Tears | Vomiting | Insomnia |
| | Rhinorrhea | Diarrhea | Craving |
| | Nasal congestion | Muscle spasm and pain | |
| | Nausea | Increased arterial BP | |
| | Mydriasis | Tachycardia | |
| | | Fever and chills | |

Source: CREMESP/AMB, 2003.

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| Arthur Guerra Andrade | FMUSP | SENAD | - | - | - | - | - |

* Modest

** Significant

*** Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.

Note: IPq-FMUSP = Instituto de Psiquiatria, Faculdade de Medicina, Universidade de São Paulo; FMUSP = Faculdade de Medicina, Universidade de São Paulo; SENAD = Secretaria Nacional de Álcool e Drogas.

For more information, see Instructions for Authors.

References

- Substance Abuse and Mental Health Services Administration. Results from the 2008 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09-4434). Rockville, MD: 2009. [cited 2010 jun 28]. Available from: <http://oas.samhsa.gov/nsduh/2k8nsduh/2k8Results.pdf>.
- IBGE - Instituto Brasileiro de Geografia e Estatística. Censo Populacional 2004. [citado 22 jun 2010]. Disponível em: <http://www.ibge.gov.br/>.
- Barros RE, Marques JM, Carlotti IP, Zuardi AW, Del-Ben CM. Short admission in an emergency psychiatry unit can prevent prolonged lengths of stay in a psychiatric institution. *Rev Bras Psiquiatr*. 2010;32(2):145-51.
- Cherpitel CJ. Alcohol and violence-related injuries: an emergency room study. *Addiction*. 1993;88(1):79-88.
- Cherpitel CJ. Alcohol and injuries: a review of international emergency room studies. *Addiction*. 1993;88(7):923-37.
- Lowenstein SR, Weissberg M, Terry D. Alcohol intoxication, injuries, and dangerous behaviors-and the revolving emergency department door. *J Trauma*. 1990;30(10):1252-8.
- D'Onofrio G, Becker B, Woolard RH. The impact of alcohol, tobacco, and other drug use and abuse in the Emergency Department. *Emerg Med Clin North Am*. 2006;24(4):925-67.
- Devlin RJ, Henry JA. Clinical review: major consequences of illicit drug consumption. *Crit Care*. 2008;12(1):202-8.
- Office of Applied Studies. Polydrug Admissions: 2002. The DASIS Report. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2005. [cited 2010 apr 28]. Available from: <http://oas.samhsa.gov/2k5/polydrugTX/polydrugTX.htm>
- American Psychiatric Association. *Practice guideline for the treatment of patients with substance use disorders*, 2nd edition. In American Psychiatric Association Practice Guidelines for the Treatment of Psychiatric Disorders: Compendium 2006. Arlington, VA: American Psychiatric Association; 2006. [cited 2010 apr 28]. Available from: http://www.psych.org/psych_pract/treatg/pg/SUD2ePG_04-28-06.pdf
- Lukens TW, Wolf SJ, Edlow JA, Shahabuddin S, Allen MH, Currier GW, Jagoda AS. Clinical Policy: Critical Issues in the Diagnosis and Management of the Adult Psychiatric Patient in the Emergency Department. *Ann Emerg Med*. 2006;47(1):79-99.
- ABP - Associação Brasileira de Psiquiatria. Diretrizes para um modelo de assistência integral em saúde mental no Brasil. 2006.[citado 18 abr 2010]. Disponível em: http://www.abpbrasil.org.br/diretrizes_final.pdf.
- McCorry F, Garnick DW, Bartlett J, Cotter F, Chalk M. Developing performance measures for alcohol and other drug services in managed care plans. Washington Circle Group. *Jt Comm J Qual Improv*. 2000;26(11):633-43.
- Slade M, Taber D, Clarke MM, Johnson C, Kapoor D, Leikin JB, Naylor JB, Neal DA, Novak J, Steiner D, Temkin T, Teodo P, Tippy A, Tronc V, Yohana D, Zehr E, Zun L, Illinois Hospital Association Behavioral Health Constituency Section Steering Committee and its Best Practices Task Force. Best practices for the treatment of patients with mental and substance use illnesses in the emergency department. *Dis Mon*. 2007;53(11-12):536-80.
- Sobell MB, Sobell LC, VanderSpeck R. Relationships among clinical judgement, self-report and breath analysis measures of intoxication in alcoholics. *J Consult Clin Psychol*. 1979;47(1):204-6.
- Zun LS, Leikin JB, Stotland NL, Blade L, Marks RC. A tool for the emergency medicine evaluation of psychiatric patients. *Am J Emerg Med*. 1996;14(3):329-33.
- Herrington RE. Alcohol abuse and dependence: Treatment and rehabilitation. In: Herrington RE, Jacobson G, Benzer D, editors. *Alcohol and drug abuse handbook*. St. Louis: Warren H. Green; 1987. p.180-219.
- Aoki OS. Emergências relacionadas ao álcool. In: Cordeiro DC, Baldaçara L. *Emergências psiquiátricas*. São Paulo: Roca; 2007. p.137-53.
- Center for Substance Abuse Treatment. Substance Abuse Treatment for Persons with Co-occurring Disorders: Treatment Improvement Protocol (TIP) Series No. 42. DHHS Publication (SMA) 05-3922. Rockville, MD; Substance Abuse and Mental Health Services Administration; 2005.
- Mash DC, Duque L, Pablo J, Qin Y, Adi N, Hearn WL, Hyma BA, Karch SB, Druid H, Wetli CV Brain biomarkers for identifying excited delirium as a cause of sudden death. *For Sci Int*. 2009;190:e13-e19.
- Zun LS. Evidence-based treatment of psychiatric patient. *J Emerg Med*. 2005;28(3):277-83.
- Botega NJ. Prática psiquiátrica no hospital geral: interconsulta e emergência. In: Ribeiro M, Laranjeira R, Dunn J. *Álcool e drogas: emergência e psiquiatria*. 2a ed. Porto Alegre: Artmed; 2006. p.263-82.
- Jorge RCFA. Emergências relacionadas ao uso e abuso de drogas. In: Cordeiro DC, Baldaçara L, editores. *Emergências psiquiátricas*. São Paulo: Roca; 2007. p.115-36.
- McCord J, Jneid H, Hollander JE, de Lemos JA, Cercek B, Hsue P, Gibler WB, Ohman EM, Drew B, Philippides G, Newby LK, American Heart Association Acute Cardiac Care Committee of the Council on Clinical Cardiology. Management of Cocaine-Associated Chest Pain and Myocardial Infarction. A Scientific Statement from the American Heart Association Acute Cardiac Care Committee of the Council on Clinical Cardiology. *Circulation*. 2008;117(14):1897-907.
- Diehl A. Tratamento farmacológico de intoxicações agudas e síndrome de abstinência de cocaína. In: Diehl A, Cordeiro DC, Laranjeira R. *Tratamentos farmacológicos para dependência química: da evidência científica à prática clínica*. Porto Alegre: Artmed; 2010. p.185-7.
- Jin C, McCance-Katz EF. Substance abuse: cocaine use disorders. In: Tasman A, Kay J, Lieberman JA, editors. *Psychiatry*. 2nd ed. Chichester, UK: John Wiley & Sons; 2003. p.1010-36.
- Zimmerman JL. Poisonings and overdoses in the intensive care unit: general and specific management issues. *Crit Care Med*. 2003;31(12):2794-801.
- Braunwald E, Antman EM, Beasley JW, Califf RM, Cheitlin MD, Hochman JS, Jones RH, Kereiakes D, Kupersmith J, Levin TN, Pepine CJ, Schaeffer JW, Smith EE 3rd, Steward DE, Theroux P, Gibbons RJ,

- Alpert JS, Faxon DP, Fuster V, Gregoratos G, Hiratzka LF, Jacobs AK, Smith SC Jr. ACC/AHA 2002 guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction—summary article: a report of the American College of Cardiology/American Heart Association task force on practice guidelines (Committee on the Management of Patients With Unstable Angina). *J Am Coll Cardiol.* 2002;40(7):1366-74.
29. Foltin RW, Fischman MW. Ethanol and cocaine interactions in humans: cardiovascular consequences. *Pharmacol Biochem Behav.* 1988;31(4):877-83.
30. Patel MM, Belson MG, Longwater AB, Olson KR, Miller MA. Methylenedioxymethamphetamine (Ecstasy)-related hyperthermia. *J Emerg Med.* 2005;29(4):451-4.
31. Graff S, Fruchtingarten LV, Haddad J. Intoxicações agudas e seus tratamentos. In: Seibel SD, editor. *Dependência de drogas.* 2a ed. São Paulo: Atheneu; 2010. p.763-82.
32. Murray RM, Morrison PD, Henquet C, Di Forti M. Cannabis, the mind and the society; the hash realities. *Nat Rev Neurosci.* 2007;8(11):885-95.
33. Crippa JA, Zuardi AW, Martín-Santos R, Bhattacharya S. Cannabis and anxiety: a critical review of the evidence. *Hum Psychopharmacology.* 2009;24(7):515-23.
34. Melges FT, Tinklenberg JR, Hollister LE, Gillespie HK. Temporal disintegration and depersonalization during marihuana intoxication. *Arch Gen Psychiatry.* 1970;23(3):204-10.
35. Bowers MB Jr: Acute psychosis induced by psychotomimetic drug abuse, I: clinical findings. *Arch Gen Psychiatry.* 1972;27(4):437-40.
36. Bowers MB Jr: Acute psychosis induced by psychotomimetic drug abuse, II: neurochemical findings. *Arch Gen Psychiatry.* 1972;27(4):440-2.
37. Baltieri DA, Strain EC, Dias JC, Scivoletto S, Malbergier A, Nicastrí S, Jerônimo C Andrade AG. Diretrizes para o tratamento de pacientes com síndrome de dependência de opióides no Brasil. *Rev Bras Psiquiatr.* 2004;26(4):259-69.
38. Collins ED, Kleber H. Opioids: detoxification. In: Galanter M, Kleber HD editors. *The american psychiatric publishing textbook of substance abuse treatment:* 3rd ed. Washington, DC: American Psychiatric Publishing; 2004. p.265-89.
39. Doyon S. Opioids. In: Tintinalli JE, Kelen GD, Stapczynski JS, Ma OJ, Cline DM, editors. *Emergency medicine: a comprehensive study guide.* 6th ed. New York, NY: McGraw-Hill; 2004. p.1071-4.
40. Donnino MW, Vega J, Miller J, Walsh M. Myths and Misconceptions of Wernicke's encephalopathy: what every emergency physician should know. *Ann Emerg Med.* 2007;50(6):715-21.
41. Caine D, Halliday GM, Kril JJ, Harper CG. Operational criteria for the classification of chronic alcoholics: identification of Wernicke's encephalopathy. *J Neurol Neurosurg Psychiatry.* 1997;62(1):51-60.
42. Sechi G, Serra A. Wernicke's encephalopathy: new clinical settings and recent advances in diagnosis and management. *Lancet Neurol.* 2007;6(5):442-55.
43. Leite MC. Abuso e dependência de cocaína: Conceitos. In: Leite MC, Andrade AG. *Cocaína e crack dos fundamentos ao tratamento.* Porto Alegre: Artmed; 1999. p.25-41.
44. Petursson H, Lader MH. Withdrawal from long-term benzodiazepine treatment. *Br Med J.* 1981;283(6292):643-5.
45. Arseneault L, Cannon M, Witton J, Murray RM. Causal association between cannabis and psychosis: examination of the evidence. *Br J Psychiatry.* 2004;184:110-7.
46. Cunningham RM, Bernstein SL, Walton M, Broderick K, Vaca FE, Woolard R, Bernstein E, Blow F, D'Onofrio G. Alcohol, Tobacco, and other drugs. Future directions for screening and intervention in the emergency Department. *Acad Emerg Med.* 2009;16(11):1078-88.
47. D'Onofrio G, Degutis LC. Preventive care in the emergency department: screening and brief intervention for alcohol problems in the emergency department: a systematic review. *Acad Emerg Med.* 2002;9(6):627-38.
48. Miller NS, Kipnis SS. Detoxification and Substance Abuse Treatment. A Treatment Improvement Protocol – TIP 45. Substance Abuse and Mental Health Services Administration. Center for Substance Abuse Treatment. 2006. [cited 2010 apr 28]. Available from: <http://www.samhsa.gov>
49. Baltieri DA. Opiáceos. In: Laranjeira R, coordenador. *Usuários de substâncias psicoativas: abordagem, diagnóstico e tratamento.* 2a ed. São Paulo: Conselho Regional de Medicina do Estado de São Paulo/Associação Médica Brasileira; 2003. p.86.