

## EMERGENCY ROOM ADMISSION IN POLYDRUG CONSUMERS: ONE YEAR SURVEY IN ROMANIA

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### Abstract

Information on drug consumption obtained from emergency room clinical records are among the indirect indicators often used to describe the profile of drug consumers and to evaluate prevalence trends in the illegal drug use.

This paper presents a one-year survey on emergency room admissions of polydrug users, including heroin users in Sf. Pantelimon Emergency Hospital Bucharest, Romania. The records of 2010 from medical emergency room were assessed, in order to characterise the population of drug users consulting the Emergency Service following the consumption of the drugs and needing medical care.

Seventy cases were recorded in 2010, with approximately 38% of cases directly related to opiates (mainly heroin). An over-representation of men (55/70 of cases) has characterized the population of drug users studied and the mean age was  $27.11 \pm 0.67$  (median 26) for the whole group. As highlighted in many recent statistics, the use of new psychoactive drugs, such as the so-called "ethnobotanicals" is growing; our study indicates a high level of "ethnobotanicals" drugs, approximately 34% (24/70 of cases). It should be noted that some cases (approximately 16%, 11/70 of cases) were represented by the associated consumption of heroin and "ethnobotanicals" or heroin and hallucinogens, as well as by the opiate withdrawal syndrome. The distribution of the patients according to the age category shows the highest number of consumers in the age group 26-30 years, heroin being the most used drug. The clinical status of the patients was affected, with isolated cases of unconsciousness and mostly with agitation, dizziness or fatigability and drowsiness. The clinical diagnosis was supported in most cases by screening of the urine using multidrug rapid tests.

The results of the study suggest that the patients did not suffer excessive or dangerous adverse effects. However, because of the risk of the drug use, and particularly of the potentially higher risk of the new "legal highs" or "ethnobotanical" products, it becomes obvious the need for developing harm reduction interventions.

### Rezumat

Informațiile cu privire la consumul de droguri obținute din înregistrările clinice ale unităților de urgență sunt printre indicatorii indirecți folosiți adesea pentru a descrie profilul consumatorilor de droguri și a evalua tendințele prevalenței în consumul de droguri.

Această lucrare prezintă un studiu pe un an privind internarea policonsumatorilor de droguri, inclusiv a consumatorilor de heroină la unitatea de primiri urgențe a Spitalului de Urgență Sf. Pantelimon București.

Pentru a caracteriza populația de consumatori de droguri care se adresează Serviciului de Urgență în urma consumului de droguri și au nevoie de îngrijire medicală, au fost analizate înregistrările din 2010 ale unității de primiri urgențe.

Șaptezeci de cazuri au fost înregistrate în anul 2010, aproximativ 38% din cazuri legate direct de opiacee (în special de heroină). O reprezentare mult mai mare a bărbaților (55/70 din cazuri) a caracterizat populația de utilizatori de droguri studiată, iar vârsta medie a fost de  $27.11 \pm 0.67$  (mediana 26) pentru întregul grup. Așa cum s-a subliniat în numeroase statistici recente, utilizarea de noi droguri psihoactive, cum ar fi așa-numitele "etnobotanice" este în creștere; studiul nostru indică un nivel ridicat de utilizare al drogurilor "etnobotanice", aproximativ 34% (24/70 din cazuri). Trebuie remarcat faptul că, unele cazuri (aproximativ 16%, 11/70 din cazuri) au fost reprezentate de consumul asociat de heroină și "etnobotanice" sau heroină și halucinogene, precum și de sindromul de abstinență la opiacee. Distribuția pacienților în funcție de categoria de vârstă arată cel mai mare număr de consumatori în grupa de vârstă 26-30 ani, heroina fiind drogul cel mai utilizat. Starea clinică a pacienților a fost afectată, cu cazuri izolate de inconștiență și, mai ales, cu agitație, amețeli sau oboseală și somnolență. În majoritatea cazurilor diagnosticul clinic a fost susținut de screeningul urinar calitativ, prin utilizarea testelor rapide multidrogu.

Rezultatele studiului sugerează faptul că pacienții nu au fost suferit reacții adverse exacerbate sau periculoase.

Cu toate acestea, din cauza riscului consumului de droguri, și în special a riscului potențial mai mare pentru noile produse de tipul "droguri legale" sau "etnobotanice", devine evidentă necesitatea de a dezvolta intervenții de reducere a riscurilor.

**Keywords:** polydrug use, "ethnobotanicals", new psychoactive drugs

### Introduction

Polydrug use, including combinations of alcohol and illegal drugs, sometimes with prescription drugs or uncontrolled substances, has become the dominant pattern of drug use in Europe. Heroin consumption, particularly by injection, continues to cause the largest morbidity and mortality rate in drug use in the European Union.

A relatively recent phenomenon emerging both in Romania and abroad, which has proved to be popular amongst young people, is the use of so-called "ethnobotanicals" or "legal highs" [11]. In 2010, a record number of 41 new substances were reported by the European early warning system and the ongoing data showed no decrease [1]. There is limited published data on „ethnobotanicals”, both within Romania and internationally, particularly with regard to the use of these drugs by young people. Recent data indicate that, in the first six months of 2009, 278 people needed hospital care in Romania, following the consumption of "ethnobotanicals". A significant proportion of these subjects were minors (for example, 10 of 66 cases in Iasi county, and in 13 cases in the Emergency Hospital

Bucharest, Romania) [2]. Currently, “ethnobotanicals” are seen as an ongoing challenge not only for their forensic and toxicological identification, but also for the risk assessment and the development of the control strategies [7].

Although the emergency rooms are the first health services attended by the drug users needing medical care following the consumption of the drugs, there are few direct studies on this population. In order to describe the profile of the drug consumers, the study has aimed to examine the emergency room admissions of the polydrug users, including heroin users, in Sf. Pantelimon Emergency Hospital Bucharest during the year of 2010.

### Materials and Methods

The data was collected from the clinical records of the patients who needed medical care and presented or were brought to the emergency room at Sf. Pantelimon Hospital Bucharest during 2010. The study was performed on 70 polydrug consumers (55 men and 15 women), treated in the emergency room following drug consumption. The following parameters were assessed: age, gender, the clinical status (evaluated by Glasgow Coma Scale), the type of the drug consumed, the treatment applied. The qualitative screening analysis of the urine was performed using One step DOA rapid test (InTec Products, Inc.).

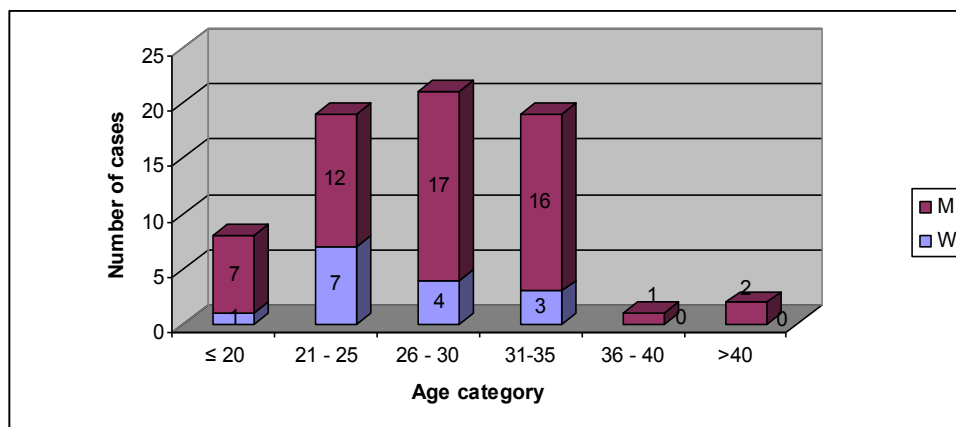
### Results and Discussion

Seventy drug consumers (55 men and 15 women) attended emergency room in 2010; an over-representation of men was revealed, the male/female ratio being 3.66 (Table I). The analysis of the demographic characteristics indicates that the mean age was  $27.11 \pm 0.67$  (median 26) for the whole group; there were no significant differences for the mean age between men (27.42 years, in the range = 15 – 42) and women (25.86 years, in the range 19 – 33). The distribution of the patients according to their age group indicates the most frequent age groups 26 – 30 years (30%), 21 – 25 years and 31 – 35 years, both with 27% (Table I and figure 1). It should be noticed that, in contrast to men, for the women, the most frequent age category was 21 – 25 years (Figure 1).

**Table I**

The demographic characteristics for the studied population

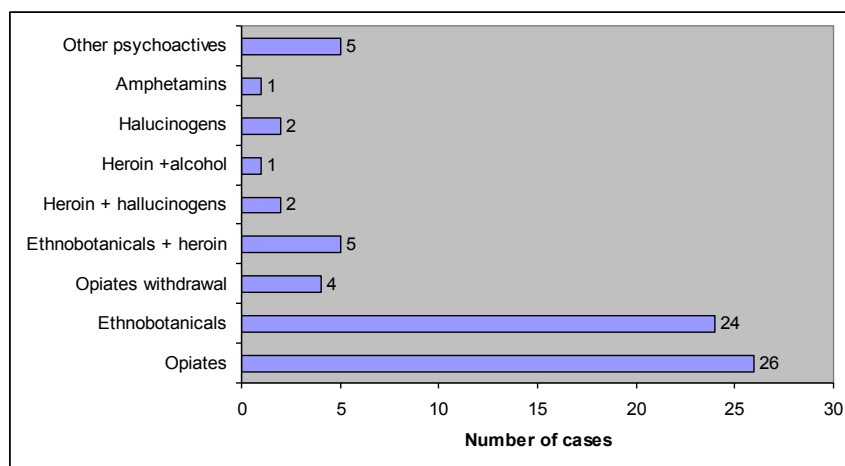
|                                  |                                                                     |
|----------------------------------|---------------------------------------------------------------------|
| Total cases                      | 70                                                                  |
| Gender distribution              | 55 men, 15 women                                                    |
| Men/women ratio                  | 3.66                                                                |
| Mean age ( $\pm$ standard error) | 27.11 ( $\pm$ 0.67)<br>(range 15 – 42; median 26)                   |
| Frequent age groups              | 26 – 30 years (30%);<br>21 – 25 years (27%);<br>31 – 35 years (27%) |



**Figure 1**

The repartition of the patients according to their age group  
(M – Men; W – Women)

As it can be noticed, twenty-six episodes (approximately 38% of cases) were directly related to opiates (mainly heroin), while the new psychoactive drugs, such as the so-called “ethnobotanicals” were responsible for 34% of cases (24/70 of cases) (Figure 2). Some cases (approximately 16%, 11/70 of cases) were represented by the associated consumption of heroin and “ethnobotanicals” or heroin and hallucinogens, as well as by the opiate withdrawal syndrome (Figure 2). A profile of the typical admission for emergency care of the drug-intoxicated subjects reveals a man who is 26 - 35 years old and who has consumed heroin alone or in combinations.



**Figure 2**

The distribution of the cases according to the drug consumed

The data show that, in contrast to the opiate drugs (consumed predominantly in the age groups of 26 – 30 years, and 31 – 35 years) the "ethnobotanicals" are used in all age groups, but frequently in 21 – 25 years category (Table II). The use of the new psychoactive substances (improperly called "ethnobotanicals" or "legal highs") was first revealed in 2008 and has experienced a rapid increase and diversification in the recent years, with decline and recovery determined by the implementation of legislation and the control measures. The products traded under the name of "ethnobotanicals" are classified in two categories: "Spice" type products - mixtures of plants and chemical substances (recently identified as synthetic cannabinoids), intended for smoking; mixtures of chemical powders that can be sniffed or injected – synthetic psychoactive substances with stimulant or hallucinogen effects [2, 5, 6, 8, 9]. According to the official statistics, the profile of the consumer of the new psychoactive substances traded as "ethnobotanicals" is a male, aged 15 to 39 years old, who often attends the emergency unit and who uses, as secondary drug, especially alcohol, heroin or cannabis [1].

**Table II**

The repartition of the patients according to drug consumed and the age category (years)

|                          | ≤ 20 | 21 - 25 | 26 - 30 | 31-35 | 36 - 40 | > 40 |
|--------------------------|------|---------|---------|-------|---------|------|
| Opiates                  | 2    | 5       | 10      | 9     | 0       | 0    |
| Ethnobotanicals          | 3    | 9       | 4       | 5     | 1       | 2    |
| Opiates withdrawal       | 0    | 2       | 2       | 0     | 0       | 0    |
| Ethnobotanicals + heroin | 0    | 0       | 3       | 2     | 0       | 0    |
| Heroin + hallucinogens   | 0    | 1       | 0       | 1     | 0       | 0    |
| Heroin +alcohol          | 1    | 0       | 0       | 0     | 0       | 0    |
| Halucinogens             | 0    | 1       | 1       | 0     | 0       | 0    |
| Amphetamins              | 0    | 0       | 0       | 1     | 0       | 0    |
| Other psychoactives      | 2    | 1       | 1       | 1     | 0       | 0    |

Mental disorders were the most common diagnosis. For most patients, the overall clinical status was associated with agitation, dizziness, headache or fatigability and drowsiness. The patients were assessed against the criteria of the Glasgow Coma Scale, evaluating the eye, verbal and motor responses; the resulting scores were around 14 -15, indicating fully awake person for the most patients. Few patients (5/70) were brought in unconsciousness state. Usually, the patients presented to the emergency room with opiate intoxication receive rapid clinical diagnosis and treatment owing to the particularity of the opiate toxidrome, a constellation of classic

signs - mental depression, hypoventilation, miosis [10]. Coma may occur in individuals with opiate intoxication or they may develop only excessively drowsiness or lack of attention. The most common symptom following the consumption of „ethnobotanicals" was agitation. The treatment used was mainly symptomatic and supportives, with sedatives, anxiolytics, antipsychotics, as well as infusions for the management of the electrolyte imbalance and rehydration.

The rapid urine drug screen tests were applied for the analytical diagnostic of the intoxications (an example is presented in Figure 3). Although these tests do not always identify the specific drug, they confirm their presence. As can be seen in figure 3, the urine screening test indicates polydrug use, being positive for methadone, THC and benzodiazepines. Lately, benzodiazepines have been increasingly reported in the abusive consumption (alprazolam has been shown to have a higher risk of abuse), and involved in many forensic cases [4].

As drug consumption highly increased in recent years, the necessity to diversify the opiates analytical methods, mainly in biological matrices (body fluids, tissues, etc.) is obvious [3]. In the case of "ethnobotanicals" the analytical tools are more limited, due to the rapid emerging of these substances and the uncertainty regarding the composition and purity of the product consumed.



**Figure 3**

Example of the qualitative urine screening test of the polydrug use (positive for methadone, tetrahydrocannabinol – THC, and benzodiazepines)

## Conclusions

The results of the study can provide valuable insights into the nature and dimensions of drug abuse problems. Polydrug use, mainly by men, particularly the use of heroin in combinations, is the predominant model of drug abuse. Rapid emergence of the new psychoactive substances such as „ethnobotanicals" is a growing problem important for the current models of drug control. The urine drug screen tests confirm the presence of most drugs and support the clinical diagnosis, helping the clinician in prescribing treatment.

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