Drug-related emergencies in the older population in Spain

Urgencias derivadas del uso de drogas en la población mayor en Spain

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In Spain, acute poisonings account for between 0.6% and 1% of emergency department (ED) visits, with specific epidemiological patterns.[1] Individuals aged 65 years or older constitute a distinct subgroup, accounting for approximately 8%–10% of poisoning cases. These patients have a greater need for hospital admission,[2] and they also differ from the rest of the population in terms of clinical presentation, management, and outcomes.[3,4] In this age group, poisonings are more often related to prescribed dugs than to illicit substances, reflecting the high burden of chronic disease and dug use, as well as the frequent use of drugs in suicide attempts.[5] Thus, in the series published by Supervía *et al.*, which included 341 poisonings in patients aged 65 years or older treated over a 6-year period (2009–2014), only 3 cases (0.9%) were due to the use of drugs of abuse.[2] However, although infrequent, emergencies resulting from drug use in older people, who are more vulnerable because of comorbidity, polypharmacy, and age-related physiological changes, may be particularly severe. Currently, despite the existence of numerous reports on large series of emergency cases due to adverse events following drug use, no studies have specifically analyzed drug-related emergencies in patients aged 65 years or older. Review of general series suggests that probably fewer than 1% of cases affect this population,[6,7] and therefore a deeper understanding of the epidemiology of these emergencies is essential to improve their prevention and management.

We present a review of clinical cases from the EDs of 10 Spanish hospitals (3 in Castile and León, 2 in Catalonia, 2 in the Balearic Islands, 1 in Aragón, 1 in the Community of Madrid, and 1 in the Canary Islands) related to recreational drug use in patients aged 65 years or older. Patients with isolated alcohol use (without other drugs) were not included in the registry. Recreational intent was established by the investigator at each center, who excluded cases in which the substances had been used for medical or suicidal purposes. Cases corresponded to the period from 2016 to 2025 and were included in the REDUrHE registry, whose full characteristics have been described in former studies.[8,9] Creation of the REDUrHE registry was approved by the Research Ethics Committee of the *Hospital Universitario de Canarias* (Tenerife, Canary Islands, Spain), reference No. 2016-71. For the included patients, demographic variables (age, sex), type of substance reportedly used, alcohol co-ingestion, mode of arrival at the ED, day and time of care, clinical signs, and outcomes (hospital admission, length of stay, and mortality) were collected. A descriptive analysis was performed, expressing quantitative variables as median and interquartile range (IQR), and qualitative variables as absolute frequencies and percentages. The relationship between patient age and the need for hospitalization was investigated in crude (unadjusted) form using a nonlinear model based on restricted cubic splines, with 3 knots at the 10th, 50th, and 90th percentiles, following the methodology proposed by Harrell.[10] Furthermore, the main characteristics of older and younger patients were compared using the chi-square test and the nonparametric Mann–Whitney test.

Of the 12,024 patients included in the REDUrHE registry, 68 were aged 65 years or older (0.6%) and were analyzed in the present study. The patients' median age was 69 years (IQR, 67–74), and 81% were men (Table 1). The substances most frequently involved were cannabis and derivatives (57%) and cocaine (29%). In 15 patients (22%), more than 1 substance was recorded, and ethanol co-ingestion occurred in 34%. There were 12 cases of recreational benzodiazepine use; in 9 of these, benzodiazepines were used concomitantly with other drugs of abuse (6 cases with cannabis, 4 with opioids, and 1 with cocaine; 2 patients used more than 1 additional substance). Most patients arrived at the ED by ambulance (75%) and were treated during the morning or afternoon (68%), and in half of the cases care was provided between Friday and Sunday (50%). The most frequent clinical signs were decreased level of consciousness (38%) and anxiety (16%), followed by vomiting, palpitations, and hypertensive crises. Overall, 22% of patients required admission to medical wards, with no deaths recorded. The relationship between age and hospitalization showed a nonlinear pattern, with a neutral relationship between 65 and 75 years, followed by a progressive increase thereafter (Figure 1). Compared with younger patients (data from 11,741 cases), patients aged 65 years or older arrived more frequently by ambulance and less frequently during the afternoon-evening period. Cannabis, opioids, and benzodiazepines were more frequently involved, whereas cocaine and alcohol were less frequently involved. Regarding the most common symptoms, decreased consciousness was more frequent and anxiety less frequent. Finally, the need for hospitalization was higher, whereas length of stay and death during the episode did not differ between the 2 groups (Table 2).

The results of this study show that drug-related emergencies in patients

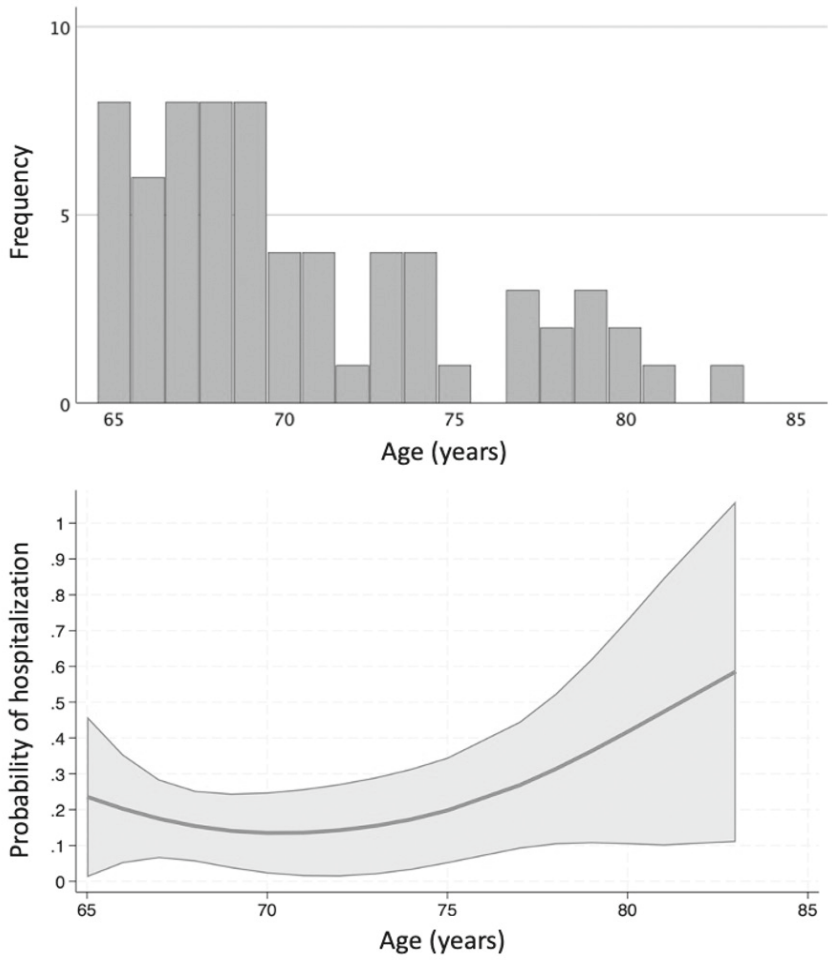


Figure 1. Frequency of cases according to age (top) and relationship with the need for hospitalization (bottom).

aged 65 years or older, although uncommon (< 1% of episodes), have specific clinically relevant characteristics. Particularly noteworthy are the predominance of men and the high number of cases involving cannabis, cocaine, or opioids (present in > 90% of cases), suggesting persistence of drug use among chronic users into older age.[5,11] This finding is consistent with recent studies describing an increase in recreational drug use among older adults in Western countries.[12] In addition, the observed temporal pattern, with a slight increase in visits during weekends, suggests recreational use similar to that seen in younger populations, in line with previous REDUrHE registry data[9] and with the findings of the present series, in which no weekly differences were detected compared with patients younger than 65 years (Table 2). In contrast, older adults appear to limit their use to more "traditional" drugs (cannabis, cocaine, opioids), with little presence of newer synthetic drugs, generically known as NPS (new psychoactive substances), whose use appears to be concentrated among younger individuals and to follow a more time-limited pattern.[13]

The high proportion of patients arriving by ambulance and the spectrum of clinical signs observed in this series, such as decreased level of consciousness or cardiovascular events, reflect the greater vulnerability of this population, probably related to comorbidity and age-related pharmacokinetic changes.[14] Despite this, the hospital admission rate was moderate (22%), although higher than in the rest of the poisoned population, and no mortality was recorded, which may indicate overall low severity among the included cases. On the other hand, the nonlinear relationship between age and hospitalization suggests possible heterogeneity within the older-patient group, with the oldest patients potentially having a

Table 1. Data on older patients included in this study

	Total N = 68 n (%)
Demographic data	
Age (years) [median (IQR)]	69 (67-74)
Male sex	55 (80.9)
Substances involved*	
Cannabis and derivatives	39 (57.4)
Cocaine	20 (29.4)
Opioids	15 (22.1)
Heroin	10
Methadone	2
Fentanyl	1
Unspecified opioid	2
Benzodiazepines	12 (17.6)
Alprazolam	3
Clonazepam	2
Midazolam	1
Lorazepam	1
Unspecified benzodiazepine	5
Methamphetamine	1 (1.5)
Poppers	1 (1.5)
Gamma-hydroxybutyrate	1 (1.5)
Trazodone	1 (1.5)
Peyote	1 (1.5)
Unspecified	2 (2.9)
Ethanol co-ingestion	23 (33.8)
Healthcare data	
Arrival by ambulance	51 (75.0)
Day of the week	
Monday	6 (8.8)
Tuesday	10 (14.7)
Wednesday	7 (10.3)
Thursday	11 (16.2)
Friday	13 (19.1)
Saturday	9 (13.2)
Sunday	12 (17.4)
Time of day	
Morning–afternoon (8:00 am to 8:00 pm)	46 (67.6)
Evening–night (8:00 pm to 8:00 am)	22 (33.4)
Symptoms	
Decreased level of consciousness	26 (38.2)
Anxiety	11 (16.2)
Vomiting	9 (13.2)
Palpitations	9 (13.2)
Hypertensive crisis	7 (10.3)
Arrhythmia	6 (8.8)
Chest pain	4 (5.9)
Psychomotor agitation	4 (5.9)
Hypotension	3 (4.4)
Seizures	3 (4.4)
Hallucinations	2 (2.9)
Acute psychosis	2 (2.9)
Headache	1 (1.5)
Outcome data	
Need for hospitalization	14 (21.6)
Medical ward	11
Psychiatry unit	2
Intensive care unit	1
Length of stay (hours) [median (IQR)]	7:16 (3:24-12:33)
Mortality	0 (0)

*The total number of substances exceeds 68 because 15 patients used > 1 substance.

Table 2. Comparison of the main characteristics of patients aged 65 years or older versus younger patients

	Patients ≥ 65 years N = 68 n (%)	Patients < 65 years N = 11.741 n (%)	*P* value
Demographic data			
Age (years) [median (IQR)]	69 (67-74)	32 (24-41)	< **.001**
Male sex	55 (80.9)	8895 (75.8)	.325
Health care data			
Arrival by ambulance	51 (75.0)	6752 (57.5)	**.004**
Arrival during the weekend (Fri–Sat–Sun)	34 (50.0)	5689 (48.5)	.799
Arrival during the evening-night period (8:00 pm to 8:00 am)	22 (33.4)	6129 (52.2)	**.001**
Main substances involved			
Cocaine use	20 (29.4)	5624 (47.9)	**.002**
Opioid use	15 (22.1)	845 (7.2)	< **.001**
Cannabis use	39 (57.4)	5213 (44.4)	**.032**
Benzodiazepine use	12 (17.6)	1021 (8.7)	**.009**
Alcohol use	23 (33.8)	6704 (57.1)	< **.001**
Main symptoms			
Decreased level of consciousness	26 (38.2)	2207 (18.8)	< **.001**
Anxiety	11 (16.2)	4045 (34.5)	**.002**
Vomiting	9 (13.2)	1121 (9.5)	.303
Palpitations	9 (13.2)	1980 (16.9)	.425
Hypertensive crisis	6 (8.8)	683 (5.8)	.292
Outcome data			
Hospitalization	14 (21.6)	1281 (10.9)	**.011**
Length of stay (hours) [median (IQR)]	7:16 (3:24-12:33)	5:53 (3:09-11:49)	.589
Death during the episode	0 (0)	33 (0.3)	.662

Values in bold denote statistical significance ($P < .05$).

worse prognosis, as has already been described in acute poisonings.[3,15]

These results have the limitations inherent to the analysis of a case series and do not allow epidemiological or clinical inferences to be made. Importantly, analytical confirmation of the substances involved was not available (and therefore cases of mild poisoning may have gone undetected), nor were data available on comorbidity, dependence, or frailty among the patients included in the study. In addition, the sample size was limited, and there is a possible center-selection bias because participating centers did so voluntarily and were not randomly selected or chosen to provide a balanced representation of Spanish hospital EDs.

In conclusion, although emergency visits related to drug use among people older than 65 years are a rare finding, they show distinctive characteristics compared with younger patients treated for the same reason. These include a higher frequency of cases related to opioid, cannabis, and benzodiazepine use and a greater need for hospitalization. Therefore, proactive detection of undisclosed drug use in EDs and a comprehensive approach to the potential effects of such use are advisable in a population that often presents with comorbidity, polypharmacy, and frailty.

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