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Adults admitted to the emergency department of a university hospital in Belgium for acute poisoning with ethanol as a co-ingestant: characteristics and direct medical costs

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Objective

The aim of this study was to assess the characteristics and direct medical costs of poisonings with ethanol as a co-ingestant in adults (aged ≥ 14 years) admitted to the emergency department (ED) of Ghent University Hospital (Belgium).

Methods

Data of patients with an ethanol intoxication admitted to the ED between 1 January and 31 December 2017 were analysed using medical records and hospital invoices. Cost was defined as the cost charged by the hospital to the government and the patient. Readmissions were considered as separate admissions.



Results

A cohort of 170/1,214 (14.0%) ED admissions were included, of which 15 readmissions. Men accounted for 64.7% of admissions. Patients aged 21-40 years (65.3%) were the largest group, followed by patients aged 41-60 years (24.7%), 14-20 years (15,8.8%) and >60 years (1.2%). Fifty percent of the patients were admitted on Friday, Saturday or Sunday (17.1%, 17.1% and 16.5%, respectively). Co-ingested agents most frequently involved were benzodiazepines (35.5%), cannabis (25.4%), cocaine (22.5%), psychostimulants (14.8%), antidepressants (11.2%) and antipsychotics (6.5%). Changes in consciousness were observed in 22.4%, behavioural and emotional disorders in 13.5%, and nausea and vomiting in 9.4% of admissions.

A laboratory analysis was carried out in 73.5%. Eighty-four percent received psychiatric care, which is much higher than the 59.6% of patients admitted to the hospital for acute poisoning with involvement of any types of agents. Patients were discharged at home after having received care in the ED in 48.2% of the admissions. Admissions to the ED-24-hours observation unit accounted for 31.2%, and hospitalisations or admissions to the intensive care unit for 4.7% and 5.9% of the admissions, respectively. The mean and median length of hospital stay was 1.19 (SD 3.96) and 1.0 day (IQR 0.0-1.0), respectively.

In admissions of acute poisoning with involvement of all types of agents, the mean and median length of hospital stay was 1.12 (SD 3.12) and 0.0 (IQR 0.0-1.0), respectively. The mean and median cost per admission was \$1,398 (SD \$3,101) and \$1,251 (IQR \$209-1,544), of which 96,4% was paid by the government and 3,6% by the patient. The mean and median cost for patients with any type of agents was \$1,287 (SD \$2,653), and \$423 (IQR \$154-€1,472), respectively.

Conclusion

Poisoning cases with ethanol as a co-ingestant are a limited but important group needing often psychological care. The mean cost is in the same range of acute poisoning cases involving any types of agents (7.9% higher), but the median cost is almost three times higher.

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