

retiform purpura with leukopenia and a possible association with irreversible asystole.

296. Mixed benzodiazepine-heroin acute toxicity is associated with more severe toxicity than heroin toxicity not associated with benzodiazepine use

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Objective: There has been a shortage of heroin in Europe in recent years, which has led to concerns that heroin users may switch to and/or use other drugs together with heroin, including benzodiazepines, resulting in unexpected consequences.¹ There is limited data available to be able to determine the characteristics of those who co-use benzodiazepines and heroin and/or whether this results in more severe toxicity.

Methods: The European Drug Emergencies Network (Euro-DEN) project involves longitudinal collection of data from 14 sentinel centres in 10 European countries on ED presentations with acute drug toxicity.² The Euro-DEN database was searched to identify cases from 1 October 2013 to 30 June 2014 where heroin had been used prior to presentation. Data extracted was: basic demographics, co-use of benzodiazepines, presentation level of consciousness, admission rates to critical care and length of hospital stay.

Results: There were 3,573 cases reported to Euro-DEN over this 9-month period; 872 (23.2%) involved self-reported use of heroin. Of these, 221 (25.3%) had also used one or more benzodiazepines (196 (88.7%) involved one benzodiazepine, 21 (9.5%) involved two benzodiazepines and 3 (1.8%) involved three benzodiazepines). There was significant variation across the Euro-DEN centres ranging from no heroin presentations involving a benzodiazepine in Barcelona, Copenhagen and Paris to 35.6% of heroin presentations in Oslo involving a benzodiazepine. There was no significant difference in the age or gender of the benzodiazepine-heroin and heroin cases not involving a benzodiazepine (mean age 35.4 ± 9.6 versus 36.7 ± 9.6 , $p = 0.1$; 79.2% versus 82.0% males, $p = 0.1$) and there was no difference in the proportions with coma ($GCS \leq 8/15$ and/or coded as coma; 8.1% versus 8.6%, $p = 0.2$). However, the heroin-benzodiazepine group had a longer length of hospital stay (5 hours 46 minutes versus 4 hours 45 minutes, $p = 0.03$) and were more likely to be admitted to critical care (10.4% versus 5.8%, $p = 0.01$).

Conclusion: Co-use of benzodiazepines with heroin was seen in a significant minority of this large cohort of heroin toxicity Emergency Department presentations, although there was significant variation across Europe, and was associated with poorer outcomes. It is therefore important that those working with heroin users discuss the potential risks of co-use of heroin and benzodiazepines.

References

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2. Wood DM, Heyerdahl F, Yates C et al. The European Drug Emergencies Network (Euro-DEN). *Clin Toxicol (Phila)* 2014; 52:239–41.

297. Perception of prescription drug safety in an online national survey in the UK

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Objective: To investigate perception of prescription drug safety compared to illicit drug safety in an online national survey in the UK.

Methods: The survey was undertaken in July 2014 using an online market research company. Data analysed for this study was: perception of relative safety of prescription and illicit drugs (“Do you believe prescription drugs are safer than illicit drugs?”), prevalence of illicit drug use and prevalence of prescription drug misuse. Fisher’s exact test was used to determine statistical significance (α level ≤ 0.05).

Results: In total 2,499 respondents completed the survey; the mean \pm SD age was 48.0 ± 15.6 years, 49.9% were male. In total 693 (30.8%) reported lifetime use of an illicit drug and 984 (39.4%) reported lifetime misuse of a prescription drug. Overall, 1,836 (73.5%) reported they thought that prescription drugs were safer than illicit drugs. The relationship between perception of the relative safety of prescription/illicit drugs and lifetime use of illicit and prescription drugs is shown in Table 1. Those reporting that prescription drugs are safer than illicit drugs were less likely

Table 1. Relationship between perception of drug safety and prevalence of lifetime use for illicit and prescription drugs.

| | “Do you believe prescription drugs are safer than illicit drugs?” | | P-value |
|---|---|------------|---------|
| | Yes N (%) | No N (%) | |
| Lifetime use of illicit drugs | | | |
| Yes | 466 (25.4) | 227 (34.2) | <0.0001 |
| No | 1370 (74.6) | 436 (65.8) | |
| Lifetime non-medical use of any prescription drug | | | |
| Yes | 737 (40.1) | 247 (37.3) | 0.1946 |
| No | 1099 (59.9) | 416 (62.7) | |
| Lifetime use of opioids | | | |
| Yes | 729 (39.7) | 239 (36.0) | 0.1036 |
| No | 1107 (60.3) | 424 (64.0) | |
| Lifetime use of benzodiazepines | | | |
| Yes | 38 (2.1) | 19 (2.9) | 0.2872 |
| No | 1798 (97.9) | 644 (97.1) | |

to report use of illicit drugs ($p < 0.0001$) and less likely to report non-medical use of prescription drugs, although not statistically significant ($p = 0.1946$). There were no differences in reported non-medical use of prescription drugs overall, opioids or benzodiazepines amongst those reporting that prescription drugs are safer than illicit drugs.

Conclusion: Data on the perception of relative drug safety is important in understanding motivations for drug use. It is likely that the reasons for this are heterogeneous and further work is required to explore whether they may be based on previous experiences of drug use or whether in some individuals they directly impact the likelihood of an individual using different drugs.

298. Review of the European-Drug Emergencies Network (Euro-DEN) training package for non-specialist workers to assess acute recreational drug and novel psychoactive substance (NPS) toxicity in night-time economy environments

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Objective: The initial management of acute recreational drug and novel psychoactive substance (NPS) toxicity is often by non-specialist individuals working in the night-time economy. The European Drug Emergencies Network (Euro-DEN) project is developing a uniform guideline and an associated training package for the assessment and initial management of acute recreational drug/NPS toxicity for use by non-specialist night-time economy workers in Europe.¹

Methods: Night-time economy workers in London, UK, Parnu/Tallinn, Estonia and Oslo, Norway were invited to attend a 1-2 hour interactive case-based discussion training session based around the Euro-DEN pre-hospital assessment guidelines. Participants self-assessed their competence on a scale of 0-10 in assessing acute drug toxicity before and after a training session. In addition, they rated the session length and overall quality and provided comments on further adaptations.

Results: In total 81 individuals (London 42, Oslo 39, Parnu/Tallinn 17) completed the questionnaire. The overall rating of the training session (out of 10) was 8.3 ± 1.4 . Participants felt less confident in managing acute toxicity related to NPS (4.7 ± 2.6) compared to classical recreational drugs (6.2 ± 2.5 , $p < 0.001$); there was a significant improvement in their confidence after the training session (Table 1). In total 90 participants thought the training session was an appropriate length, 4 too short and 2 too long. Qualitative review of the comments identified two themes: i) increased information on different drugs and ii) more interactive/practical training.

Table 1. Confidence (as rated by questionnaire) in non-specialist workers in managing acute recreational drug and NPS toxicity attending a training session.

| | Pre-training session | Post-training session | |
|--|----------------------|-----------------------|-------------|
| Overall confidence in managing drug toxicity | 7.1 ± 1.9 | 8.3 ± 1.2 | $p < 0.001$ |
| Confidence with classical drug toxicity | 6.2 ± 2.5 | 8.0 ± 1.5 | $p < 0.001$ |
| Confidence with NPS toxicity | 4.7 ± 2.6 | 7.1 ± 1.9 | $p < 0.001$ |

Conclusion: The Euro-DEN night-time economy guidelines were well received and improved confidence in managing acute classical drug/NPS toxicity. Those working in the pre-hospital environment had less confidence in managing acute toxicity related to NPS. Qualitative feedback suggests that more practical, potentially with simulation-based, training would further improve the confidence of non-specialist workers in the pre-hospital environment in assessing drug toxicity.

Reference

1. Wood DM, Heyerdahl F, Yates C, et al. The European Drug Emergencies Network (Euro-DEN). *Clin Toxicol (Phila)* 2014; 52:239-41.

299. Deaths involving recreational drugs and novel psychoactive substances reported to the European Drug Emergencies Network (Euro-DEN): A review of the first 9 months

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Objective: Data on drug-related deaths is collected as a key indicator of the harms associated with recreational drug use, although there is often limited information available on whether these cases died in hospital. The European Drug Emergencies Network (Euro-DEN) is a European Commission funded project of 16 sentinel centres in 10 countries collecting data on presentations to Emergency Departments (ED) with acute recreational drug and/or novel psychoactive substance (NPS) toxicity;¹ we describe in-hospital deaths from the first nine months of data collection.

Methods: The Euro-DEN project database was searched to identify all deaths between 1 October 2013 and 30 June 2014. Data was extracted on the reported drug(s) used by the deceased, time from ED presentation to death, place of death and, where available, the inquest or analytical screening results.