

Poisonings

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373 MANNER OF DEATH IN FATAL PRESCRIPTION DRUG POISONINGS

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Background In Finland, post-mortem toxicology is performed in 13% of all deceased as part of medico-legal cause-of-death investigation. Of all toxicology cases, approximately every 6th case is determined by a forensic pathologist to be a fatal poisoning. Medicinal and illegal drugs form the biggest group of intoxicants causing fatal poisonings.

Methods All fatal drug poisoning cases in 2013 were examined in terms of toxicological findings, background information and the manner of death. In these cases, comprehensive post-mortem toxicology had been performed by using chromatographic and mass spectrometric techniques in an accredited central laboratory serving the whole country.

Results There were 476 fatal poisonings by medicinal and illegal drugs in 2013. Buprenorphine, tramadol, pregabalin, codeine, oxycodone, amitriptyline, quetiapine, paracetamol, venlafaxine and insulin were the ten most prevalent major factors in the cause of death. The most common manner of death in all drug poisonings was suicide (41%, median age 49), followed by unintentional poisoning (40%, median age 37), and unknown manner of death (18%, median age 51). Unintentional poisoning was the most common manner of death in opioid poisonings, especially with the strong opioids possessing high abuse potential. In cases involving antipsychotics and antidepressants, such as quetiapine, amitriptyline and venlafaxine, as well as with insulin, the percentage of suicide was higher than that of unintentional poisoning.

Conclusions Information on fatal poisonings reveals trends in drug use, which can help monitor adverse effects of medicines as well as the emergence of new abused substances. The extensive post-mortem toxicology data collected in the cause-of-death investigations in Finland enable reliable statistical analysis and research on a population-based level.

374 RISK FACTORS OF POISONING: FINDINGS FROM THE NEW ZEALAND BLOOD DONORS' HEALTH STUDY

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Background Notwithstanding difficulties in ascertaining intent, aetiological studies on adult poisoning typically focus on intentional or unintentional events as distinct entities. This study investigated the predictors of hospital admissions or deaths for intentional and unintentional poisoning in adult New Zealanders.

Methods The 22,389 participants aged 16 and older comprised the New Zealand Blood Donors Health Study (NZBDHS) cohort who completed a baseline self-report questionnaire (including demographic, personal health, psychosocial and lifestyle information) at recruitment in 1998/1999. Outcome data on poisoning-related admissions and deaths up to 31 December 2014 were collected prospectively through electronic record linkage of

participants' unique identifiers to national mortality and morbidity databases. Baseline characteristics associated with intentional and unintentional poisoning at follow-up were investigated using Cox proportional hazards analysis.

Results During the median follow-up period of 16.8 years (359,018 person-years), 437 poisoning events (315 intentional, 124 unintentional) were identified in 310 cases. Multivariable models revealed that both intentional and unintentional poisoning at follow-up were associated with depressive symptoms (intentional poisoning: adjusted HR = 2.05, 95% CI: 1.20–3.52; unintentional poisoning: adjusted HR = 1.58, 95% CI: 1.01–2.49) and suicidal ideation at recruitment (intentional poisoning: adjusted HR = 5.76, 95% CI: 3.32–9.97; unintentional poisoning: adjusted HR = 2.45, 95% CI: 1.53–3.94). Illegal drug use was a risk factor for future unintentional poisoning events.

Conclusions The findings of this large prospective injury cohort study suggest that interventions addressing mental health problems have the potential of reducing serious poisoning events irrespective of intent. Whether the findings also represent misclassification of intentional injuries as unintentional events is unclear.

375 SURVEILLANCE OF PLANT PROTECTION PESTICIDES-RELATED POISONINGS AND INJURIES

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Background Regulation 2009/1185/EU on sustainable use of pesticides requires reporting from European Member States on plant protection pesticide (PPP) poisonous exposures. These data can provide information to identify emerging problems and populations at risk, support the development of preventive and regulatory measures and evaluate their effectiveness. In Italy, a surveillance of acute PPP-related poisonings (SAPReP), based on Poison Control Centres data, has been implemented since 2001. In this contribution are presented the main characteristics of cases exposed in Italy in 2007–2012.

Methods series of cases identified by the National Poison Control Centre in Milan, reviewed and classified by the Italian National Institute of Health according to standard procedures.

Results In 2007–2012, SAPReP identified 2,108 cases of accidental PPP-related poisonings and injuries. Male patients were 1,442 (68%) while females were 442 (20%). Gender was unknown in 12% of cases (No. 224) Severity of poisoning was low in 84% of cases (No. 1,774), moderate in 14% (n. 305), high in 1% (n. 28). One case of death was identified. About 50% of poisonings occurred at work, in agricultural settings, and 36% at home. Some 70% of exposures occurred between May and September. Insecticides/acaricides were responsible in 42% of poisonings, fungicides/bactericides in 16%, herbicides in 15%, and soil sterilants in 13%. Five mass exposures were identified: two incidents were caused by off-site drift of metam sodium, a soil sterilant, and involved 86 and 103 by-standers, respectively; two incidents were caused by chlorpyrifos methyl, an organophosphate insecticide/acaricide (one occurred in a hospital, 10 cases; one occurred in agricultural setting, 20 agricultural workers); one incident was caused by phenthoate and involved 40 agricultural workers

Conclusions Surveillance based on data collected by Poison Control Centres provides an important tool to identify emerging