Fatal Poisonings with Fentanyles in Estonia

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Overview of poisoning deaths in Estonia 2000-2009


- 4132 poisoning cases – 14,3% of all forensic autopsies.
- Most frequent causes of poisoning were:
  - Ethanol (N 1449)
  - Carbon monoxide (N 1151)
  - Illicit drugs (N 888)
Illicit drug poisonings (N=888)

- Mortality from illegal drug poisonings is in average 6.3 per 100,000 inhabitants during 10 years.
- There were 789 male and 99 female fatalities.
- Most of the deceased were in the 16-34 age group.
- 3-methylfentanyl (45.7%), high number of deaths between 2004 and 2008
- Fentanyl (19.6%), high number of deaths in 2002 and 2009
- Morphine/heroin, from poppy straw mostly (10.8%)
• Most frequently co-found drugs:
• With fentanyl – bensodiazepines, opiate alkaloids and methadone
• With 3-methylfentanyl – amphetamines, bensodiazepines, methadone
• Blood alcohol concentration was > 0.20 mg/g in ca 40% of cases
2011 year data

- Alltogether 105 poisonings with fentanyles (total N of poisonings 319, 125 of them with illegal drugs).
- Poisonings with fentanyles:
  - 84 poisonings with fentanyl, 12 with 3-methylfentanyl and 9 combined
  - Most frequently co-found bensodiazepines, amphetamines and methadone
  - 89 of the deceased were drug addicts
  - Fentanyles mostly used iv (liquid form).
Coding fatal poisonings with fentanyl


The priority list for substances is as follows: Opioids (T40.0-T40.2) > Cocaine (T40.5) > Psychostimulants with abusive potential (T43.6) > Synthetic narcotics, other and unspecified narcotics (T40.3-T40.4, T40.6) > Antidepressants (T43.0-T43.2) > Non-opioid analgesics (T39.-) > Drugs and substances not listed above.

Fentanyl, which are extremely toxic, do not have special ICD code, but in the priority list they should be on the first place before opioids. Until now those poisonings have been coded as Synthetic narcotics or Drugs and substances not listed above.

Changes to ICD coding rules could improve accordance between clinical data and official mortality register.

Suggestion has been made to WHO about improving ICD codes.