

Human exposures to non-opioid analgesics reported to the Poisons Information Centre Erfurt from 2003-2012

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Objective

The aim of the study was to obtain recent information on important characteristics of all human exposures to non-opioid analgesics (NOA) reported to the Poisons Information Centre (PIC) Erfurt over a ten year period.

Methods

In a retrospective study we analysed the change in frequencies, circumstances of exposure, symptom severity, age groups, and substances involved in all NOA related enquiries to the PIC Erfurt from the beginning of 2003 to the end of 2012.

Results

In total, 8,405 cases of NOA exposures with 15,528 NOAs were registered. In 4,749 cases, only one NOA was involved. Although cases of NOA exposure increased almost twofold from 635 in 2003 to 1,002 in 2012 (Fig. 1) their relative frequency compared to all cases of exposure remained almost constant 6.4% (6.0-6.7%) over the same period (Fig. 2).

Paracetamol exposures increased from 424 in 2003 to 579 in 2009 and then fell to 445 in 2012. Ibuprofen exposures, however, continuously increased from 228 in 2003 to 762 in 2012 (Fig. 3).

Age groups involved in NOA exposures were more often adults 67.1% and less frequently children 32.7% (toddlers 15.7%) than in all exposures (adults 48.7%, children: 48.7% (toddlers 34.2%)).

The proportion of suicidal exposures was higher in NOA exposures (57.6%) than in all exposures (23.6%), whereas the proportion of accidental exposures was lower (NOA exposures: 21.5%, all exposures: 59.3%).

The ten most frequent NOAs in monoexposures were paracetamol (n=1,686), ibuprofen (n=1,439), and acetylsalicylic acid (n=456), dipyron (n=274), diclofenac (n=267), flupirtine (n=138), naproxen (n=41), etoricoxib (n=36), indomethacin (n=24), and dexketoprofen (n=19).

NOA exposures resulted mostly in none to mild symptoms (77.0%) and rarely in moderate (2.1%) or even severe symptoms (1%). There was only one death, involving the suicidal ingestion of 32 g acetylsalicylic acid by an adult.

Discussion

In 2009, the paracetamol amount for OTC sale was reduced to 10 g. We observed a decrease of paracetamol monoexposures from 181 from the beginning of 2003 to the end of 2009 (CI₉₅: 155-206) to 140 from the beginning of 2010 to the end of 2012 (CI₉₅: 118-163). If this reduction is a reversal of trend of paracetamol monoexposures has to be observed in the next years.

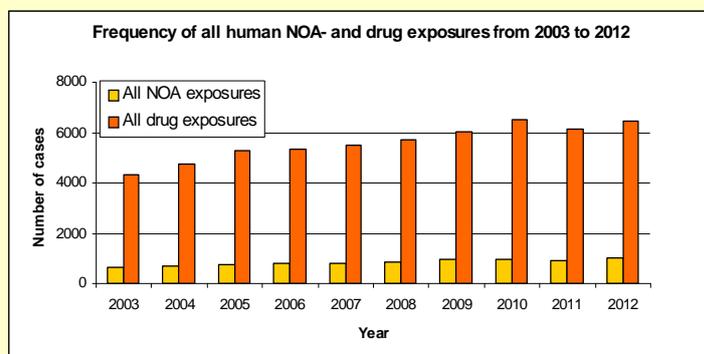


Fig. 1 Frequency of all human NOA- and drug exposures reported to the PIC Erfurt from the beginning of 2003 to the end of 2012.

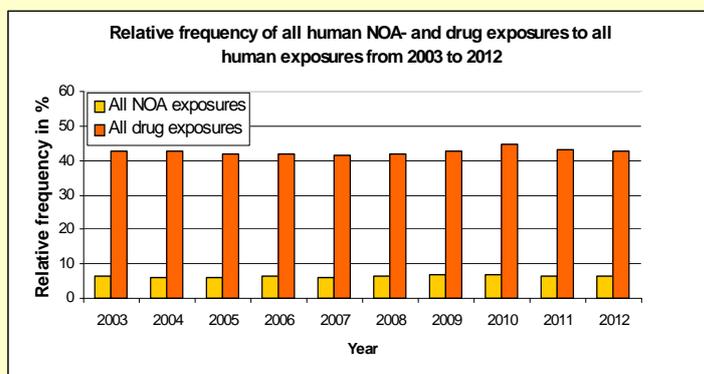


Fig. 2 Relative Frequency of all human NOA- and drug exposures reported to the PIC Erfurt from the beginning of 2003 to the end of 2012.

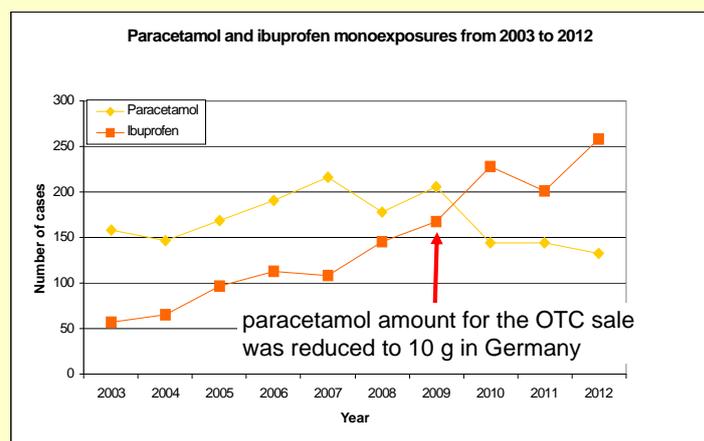


Fig. 3 Frequency of paracetamol and ibuprofen monoexposures reported to the PIC Erfurt from the beginning of 2003 to the end of 2012.

Conclusion

- NOAs are involved in almost one tenth of all human poisonings and one fifth of all human drug exposures.
- Because many NOAs are over-the-counter drugs it is difficult to obtain data on their use
- Although PIC data are not obtained by a cross-sectional study they may provide additional information on the risk of their use in the respective populations.