



Characterization of Acute Opioid Overdose in the ToxIC Registry

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Background

- The misuse of prescription opioid analgesics in the United States has steeply risen over the past decade
- Trends among gender differences and age groups are described in National Survey data, however, these data are self-reported and only include intentional abuse

Methods

- This is a retrospective review of opioid overdoses reported to the ToxIC database
- All intentional and unintentional pharmaceutical encounters between 1/1/10-11/1/14 were reviewed
- All cases that listed opioids as a primary agent ingested were included for analysis

Results

- 4818 cases were classified as intentional, and 696 cases as unintentional pharmaceutical encounters
- Men accounted for 305/611 (50%) and women for 306/611 (50%) of opioid encounters

Table 1. Top 5 agents in acute opioid overdose by intent

Intentional	Unintentional
Oxycodone (148 cases, 27%)	Buprenorphine (16 cases, 28%)
Methadone (91, 16%)	Oxycodone (12, 21%)
Hydrocodone (80, 14%)	Methadone (9, 15%)
Tramadol (80, 14%)	Morphine (6, 10%)
Heroin (41, 7%)	Tramadol (5, 9%)

Table 2. Opioid overdoses by age and intent

Age (years)	< 2	2-6	7-12	13-18	19-65	66-89	> 89
Unintentional	17	17	1	1	19	3	0
Intentional	1	4	3	61	451	31	1

Table 3. Characteristics of overdose by intent

	Intentional	Unintentional
Opioids as primary agent	553 (11%)	58 (8%)
Naloxone administration	203 (37%)	26 (45%)
Female gender	274 (50%)	32 (55%)
Male gender	279 (50%)	26 (45%)

Discussion

- The most common opioid in overdose was oxycodone (26% of all cases)
- There was no significant difference in naloxone use between intentional and unintentional overdose
- More than half of unintentional overdoses occurred in patients 6 years-old and under (34/58, 59%); this emphasizes the importance of overdose prevention targeting this age group

Conclusion

- Opioid overdose reported in the ToxIC database provides important details including types of pharmaceuticals, user intent, and need for treatment
- This information can be used to target at risk populations for prevention programs

