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23. Characterization of Acute Opioid Overdose in the ToxIC Registry

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Background: The abuse and 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, it is self-reported and only includes intentional abuse.

Objective: To compare characteristics of patients reported in the ToxIC database following opioid overdose. **Methods:** This is a retrospective review of opioid overdoses reported to the ToxIC database. All intentional and unintentional pharmaceutical encounters between 1/1/10 and 11/1/14 were reviewed. All cases that listed opioids as a primary agent in the ingestion were included for analysis.

Results: Four thousand eight hundred eighteen cases were classified as intentional and 696 cases as unintentional pharmaceutical encounters. Opioids were listed as the primary agent in 553 (11 %) of intentional and 58 (8 %) of unintentional cases. In the intentional group, the top five agents were oxycodone (148 cases, 27 %), methadone (91, 16 %), hydrocodone (80, 14 %), tramadol (80, 14 %), and heroin (41, 7 %). Of the unintentional overdoses, the most common agents were buprenorphine (16 cases, 28 %), oxycodone (12, 21 %), methadone (9, 15 %), morphine (6, 10 %), and tramadol (5, 9 %). Naloxone was administered to 26 patients in the unintentional category and 203 in the intentional overdose category (44.8 % versus 36.7 % p=0.22). Men accounted for 305/611 (50 %) and women for 306/611 (50 %) of opioid encounters overall. The 279 (50 %) of intentional cases were males, and 274 (50 %) were females. For unintentional overdoses, males accounted for 26 (45 %) and females 32 (55 %) of cases. The number of intentional versus unintentional encounters by age group is listed in the Table.

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

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

Table 1. Number of opioid overdoses by age (years) and intent

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