The Role of Methamphetamine in Cause and Manner of Death - An Update

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AIMS: The aim of this study is to examine the role of methamphetamine in deaths for four counties in Washington State between 2000 and 2005.

METHODS: Counties were selected for the accessibility of their death investigation records in electronic format and the fact that they are among the most populous, comprising 60% of the State’s population.

RESULTS: In 489 cases where the presence of methamphetamine was confirmed toxicologically, we retrieved and reviewed medical examiner determinations of the cause and manner of death. Of these cases, 337 (69%) of the cases were determined to be non-drug-caused, where the presence of methamphetamine might be either a contributory or incidental finding. For example, in the methamphetamine-present-non-drug-caused cases, the most common manner of death was suicide (25%), followed by homicide (23%), accident-traffic (18%), accident non-traffic (17%), and natural (12%).

152 (31%) of the deaths were determined to be drug caused. Of these drug-caused deaths, 97% were reported as being accidental, and < 1% suicidal. The median methamphetamine concentration in drug-caused cases was 0.35 mg/L (range 0.01 - 34.64 mg/L, mean 1.53 mg/L), and was the same as in the non-drug caused deaths. These similarities emphasize the fact that blood methamphetamine concentrations in and of themselves are insufficient to make a cause of death determination.

The highest median value of methamphetamine was among deaths ruled as accident-traffic-non-drug-caused. In this group the median value was 0.65 mg/L (range 0.02 - 3.72 mg/L, mean 0.83 mg/L). This median value is higher than that from a prior study of methamphetamine fatalities (Logan et al., 1998), which found a median of 0.35 mg/L for accident-traffic-non-drug-caused deaths, with a range of 0.05 - 2.60 mg/L.

Among the 152 drug-caused deaths, the median concentration of methamphetamine was significantly higher (p < 0.05) among methamphetamine-only cases (median 0.52 mg/L, s.d. 3.67, n = 27) compared to decedents for whom another CNS active drug was detected in addition to methamphetamine (median 0.3 mg/L, s.d. 4.52). This suggests that mortality risk from lower levels of methamphetamine is increased when it is combined with other drug use.

CONCLUSIONS: Our data supports other literature that suggests that the behavior of individuals using methamphetamine predisposes them to greater risk of injury and assault, and the socioeconomic consequences of drug use, together with the depression associated with drug withdrawal may contribute to suicidal ideation.

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