H102 Suicide by Acute Substance Intoxication: A Retrospective Analysis of Cases in Cook County, Illinois

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Learning Overview: After attending this presentation, attendees will have a better knowledge regarding suicides due to drug toxicity and the features that can help discern them from accidental suicides.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by presenting relevant information related to suicides by drug toxicity in a large metropolitan area to avoid misclassifying the manner of death.

Acute drug toxicity is one of the leading causes of death in the United States. According to the Centers for Disease Control and Prevention, since 2008, suicide has ranked as the tenth leading cause of death for all ages in the United States. Suicide is a cause of preventable mortality, but its prevention requires complex coordination and cooperation among health care providers, individuals and family members, and treatment services and the community. Medical examiners and coroners contribute to suicide prevention by assessing the manner of death. Accurate classification of the manner of death (natural, accident, suicide, homicide, or undetermined) is critical to public health. Information regarding the manner of death is directly reported into a mortality surveillance system that drives prevention, research, policy, monitoring and evaluation, and allocation of resources.

Fatal drug intoxications are thought to be among the most challenging cases for which to determine the manner of death. The intent of an overdose death can be hard to ascertain because of the lack of specific clues or the presence of potentially equivocal evidence regarding intent to die. These deaths are often classified as accidental or undetermined, leading to a potential underestimation of suicides. As a result of this, there is an inaccurate transmission of data to the public health databases. Possible misclassifications adversely impact suicide mortality surveillance, etiologic understanding, prevention, and hence, clinical/public health policy formation and practice.

In the present study, case files from the electronic database of the Cook County Medical Examiner's Office in Chicago, IL, were retrospectively reviewed over a five-year period from August 2014 to August 2019 for suicides in which the primary cause of death was acute drug and/or alcohol intoxication. The following keywords were searched in the "primary cause of death" field: "alcohol," "combined," "drug," "intoxication," and "toxicity." No limits regarding age, race, and sex were imposed. Only cases in which investigative and toxicologic reports were available were included in the study.

A total of 277 cases of suicides meeting the study criteria were found in the office database. The ages ranged from 15 to 91 years (mean: 46 years). There were 130 males, and 147 females. 235 subjects were Caucasian, 30 were African American, 9 were Asian, and 3 were Others. A full postmortem examination was performed in 236 cases.

There is an increasing trend of deaths related to substance overdose in the United States. A careful evaluation of these deaths is mandatory to identify potential suicides, providing a positive impact on public health surveillance and prevention efforts. This study adds valuable information that can be used to help determine the correct manner of death in cases of fatal drug/alcohol intoxication. The results of this study, including demographic comparisons, investigative evidence and toxicological data, will be presented to the attendees.

Suicide, Acute Toxicity, Drugs