E63 An Eight-Year Retrospective Study on Suicides in Washington, DC

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Learning Overview: After attending this presentation, attendees will understand how beneficial it is to perform toxicological analyses on every suicide and monitor the drug trends in suicides, given the current opioid crisis.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by providing evidence that supports a need for states to increase the funding for medical examiners' and coroners' offices. With this increase in aid, the trends in drugs among suicides can be analyzed and new prevention programs can be created by other health agencies.

Suicide is the tenth-leading cause of death in the United States and it is steadily increasing.[1] More than 44,000 people commit suicide every year.[1] When a suspected suicide occurs, the medical examiner, per statute, has jurisdiction over the decedent. A forensic pathologist must consider many factors when ruling the death a suicide, including if the decedent has had suicidal ideations or attempts before, diagnosis of a mental illness, and the amount of drug(s) present in the toxicology report, all of which must be considered before he or she can rule the death a suicide.[2] It is also important to understand the drug quantity and if it had been taken recently or chronically before a suicide. Each of these factors were examined and analyzed during this review.

This study analyzed toxicology, autopsy, and investigative reports for trends within this population. Between 2009 and 2016, the mortality rate for suicides in Washington, DC, had decreased from 8.8 to 6.5 per 100,000 people. Interestingly, the mortality rate was at its highest in 2014 with 10.5 per 100,000 people. When compared to different states, the population size of Washington, DC, was taken into account.

It was found that 394 decedents committed suicide, most commonly by hanging (31.2%), firearms (20.3%), and drug intoxication (15.7%). The majority of decedents were Caucasian males that resided in Washington, DC, between the ages of 20–29 years old. Interestingly, the toxicology trend showed either no drugs (33.7%), ethanol (26.4%), or opioids (14.9%) most frequently detected. Using the test of two proportions, data showed that decedents between the age of 30–39 years old were significantly more likely to have ethanol recognized in their system verses the rest of the population (P value=0.0251). Also, opioids were most commonly found in decedents ages 70–79 years old (P value=0.00398). This study analyzed the method of suicides compared to the month in which this event occurred, presence or absence of suicide note(s), suicide by firearms, the anatomic location of the injury, and more.

This research provides statistical data for public health officials when confronting the issue of suicide. It will help officials move forward with creating outreach programs to specific areas of the community that are at risk for suicide attempts or ideations. The hope is to encourage other offices to perform toxicological analysis on every suicide because drugs play a significant role in behavior. Understanding the significances of prescription or illicit drug use and the effects on behavior will bring health agencies one step closer to decreasing suicide.

Reference(s):

1. Facts & Statistics. *American Association of Suicidology.* Accessed February 4, 2018.
2. What Is a Medical Examiner? *How to Become a Crime Scene Investigator.* Accessed February 21, 2018.

Suicide, Prevention, Mortality Rate