H147 Drugs and Homicide in Memphis and Shelby County: A Continued Epidemic of Violence—2014–2016

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Learning Overview: After attending this presentation, attendees will understand the trends of select drug usage among homicide victims from 2014–2016 in Memphis, TN, and how it has changed since 1984–1986.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by reporting on the detection of drugs in homicide victims and discussing statistical points of interest previously reported in the late 1980s.

The West Tennessee Regional Forensic Center performs autopsies on medicolegal, violent, or otherwise unnatural deaths in Memphis and Shelby County. Toxicological data is an important asset for determining the significance that drugs and alcohol have on the manner and cause of death, including homicide-related deaths. Specimens, including blood, urine, vitreous humor, liver, and gastric contents, are collected during autopsies and screened using common analytical toxicology methods, such as immunoassay, full-scan Gas Chromatography/Mass Spectrometry (GC/MS) or Liquid Chromatography/Time-Of-Flight/Mass-Spectrometry (LC/TOF/MS). Positive findings are typically confirmed and quantified by GC/MS or Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). From 1980 to 1986, drug-related homicides increased according to a study by Harruff et.al.[1] Exhaustive research showed that no current studies on drug-related homicides in Memphis and Shelby County have been published since 1988. This study reviewed toxicology findings from homicide cases examined at the West Tennessee Regional Forensic Center from 2014–2016. The purpose of this research was to determine the presence or absence of drugs in homicide victims and determine if any statistical trends were present.

Toxicology findings for known homicide cases from 2014–2016 were collected to build a data set in which decedent age, race, sex, and cause of death were tabulated. It was decided to focus this study on cases with positive results for THC, opiates, amphetamines, benzodiazepines, and ethanol. Previous research indicated that THC was not previously tested for but was included in this study due its known widespread usage. Homicide victims were sorted according to their cause of death into the following major categories: gunshot wounds, blunt force trauma, stab wounds, delayed homicide, and other, and the frequency of positive results for each drug was recorded. Age as well as other demographics of homicide victims were categorized similarly to those used during the 1986 study to make comparisons. While previous research revealed that cocaine had risen to the most often-detected drug in homicide victims at the end of 1986, cocaine was found to be the third most-common toxicology result at the end of 2016. THC was found to be the most common positive toxicological result, accounting for 240 of the 460 total positive toxicological screens in the current study. Gunshot wounds remained the most prevalent cause of death associated with homicides in which drugs were detected, accounting for 83.7% of all drug-positive deaths. The most common victims of homicide, regardless of toxicology results, are African American males between the ages of 20 and 24 years. Review of these results indicated that illicit drug usage is widespread among homicide victims in Memphis, TN, and remains a common finding in homicide autopsies.

Reference(s):

1. Harruff, R.C., J.T. Francisco, S.K. Elkins, A.M. Phillips, and G.S. Fernandez. 1988. Cocaine and Homicide in Memphis and Shelby County: An Epidemic of Violence. *Journal of Forensic Sciences*, 33, no. 5: 1231-1237. *Scopus*®, EBSCO *host* (accessed June 25, 2018)

Drugs, Homicide, Toxicology