E75 A Comparison of Accidental Self-Inflicted Gunshot Wounds Occurring in Rural vs. Urban Settings

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After attending this presentation, attendees will be more familiar with trends related to fatalities resulting from accidental self-inflicted gunshot wounds occurring in an urban setting as compared to those occurring in a rural setting. More specifically, this presentation will primarily compare data related to decedent demographics, types and calibers of firearms involved, number and location of wounds, and how the injuries were sustained.

This presentation will impact the forensic science community by providing a better understanding of the differences and similarities between deaths resulting from accidental self-inflicted gunshot wounds occurring within rural and urban settings, respectively. Recognizing these trends on scene examination and during autopsy may assist when determining the manner of death.

Data was extrapolated from cases examined at the Cook County Medical Examiner's Office, Chicago, IL, and the Travis County Medical Examiner's Office, Austin, TX. For the purposes of this study, cases from Cook County represent the urban setting, while cases from Travis County represent the rural setting.

Information was retrospectively collected from cases examined at the Cook County and Travis County offices between 1986 and 2016. To identify suitable cases for inclusion, a search was conducted for cases in which the manner of death was accidental and the cause of death was related to gunshot wound(s). Cases in which there was any doubt regarding the accidental circumstances of the shooting, undetermined cases, and cases in which the wounds were not self-inflicted were excluded. A total of 49 cases, 25 from Cook County and 24 from Travis County, satisfied the study's criteria.

All decedents in the study were male and each exhibited only a single gunshot wound. In the rural sample, the average age of the decedent was 28.8 years. Only 20.8% of decedents in the rural sample were under 18 years of age. The average age was only 16.88 years in the urban sample with 64% of the sample represented by decedents under 18 years. In the rural sample, 87.5% of decedents were Caucasian. Black individuals comprised the remaining 12.5%.

In the urban sample, there were no significant difference between the percentages of Caucasians (48%) and Blacks (52%).

In both samples, a handgun was more likely to be involved than a long gun. Additionally, medium caliber weapons were most likely to be used, comprising 50% of the rural sample and 48% of the urban sample. The most common wound location in both samples was the head/neck region, comprising 79.2% of the rural sample and 96% of the urban sample. Decedents in the rural sample were more likely to sustain wounds to the chest and upper extremities than their urban counterparts. Decedents in the rural sample were more likely to sustain their injuries outdoors (54.2%), while in the urban sample, the shooting was more likely to occur within a residence (76%).

Interestingly, 88% of decedents in the urban sample received either contact or close range wounds, while 58.3% of decedents in the rural sample were shot at an indeterminate range with no evidence of contact or close range fire.

The circumstances under which the injuries occurred represented the most significant difference between the two samples. In the rural sample, 45.8% of decedents received their injuries while handling the firearm, but in the urban sample, only 12% of decedents injured themselves in this manner. In contrast, 64% of decedents in the urban sample received their injuries while playing with the firearm, but only 25% of decedents in the rural sample.

This suggests that to be effective in reducing firearm fatalities, preventive/educational strategies need to take into consideration geographic differences among the at-risk population.

Gunshot Wound, Urban vs. Rural, Accidental