



Pathology Biology Section – 2007

G48 Death by Suicide in Maryland: A Cross-Sectional Study, 2002 to 2005

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After attending this presentation, attendees will recognize the impact of suicidal deaths among various age groups, races, and between genders, allowing them to better understand that suicide as a manner of death is not isolated to the young or the old.

This presentation will impact the forensic community and/or humanity by bringing to the forefront the significance of suicide in overall mortality, detailing the different causes of death in diverse groups, and drawing epidemiologic data from the entire state of Maryland, representing the population as a whole.

Introduction: An estimated 5,600,388 individuals called the state of Maryland home in 2005 according to the United States Census Bureau. The ratio of men to women is nearly 50-50, with 48.4% and 51.6% respectively. With a population increase of 5.7% from 2000, the state is steadily growing, as is the rest of the country.

The overall rate of suicide in the state of Maryland is 8.8 per 100,000 populations per year (about 493 deaths per year). Although age (both extremes of life with adolescents and the very old being at higher risk), race (Caucasians being overrepresented) and gender (males more likely to complete suicidal deaths) are known risk factors for suicide in the literature, a detailed analysis of these and other risk factors and the interaction with the cause of death may reveal recent trends in suicide in the Maryland population.

Methods: The Office of the Chief Medical Examiner (OCME) for the State of Maryland oversees all suicidal deaths occurring in the state. From January 2003 to December 2005 there were 1477 suicidal deaths in the state. Cases within the time frame were extracted from the OCME database, each case was reviewed, and data were analyzed for age, ethnicity, cause of death, county of residence, history of depression and/or previous suicide attempts, and whether or not there was a suicide note and of what type. Of all cases, 800 (54.2%) had a complete autopsy, 264 (17.9%) had a partial autopsy, 56 (3.8%) were inspected at the OCME, 300 (20.3%) scene inspections in respective counties, and 57 (3.9%) were approvals (cases were not examined at the office, death certificates were signed by the certifying physician and co-signed at the OCME office).

Results: Men were more likely to commit suicide (80% of the cases versus 48.4% of the Maryland population), and were slightly younger (45.7 +/- 18.7 years of age) than women (46.5 +/- 16.9 years). Caucasians were over-represented (79.1% of cases and 59.8% of the population) while the remaining racial or ethnic groups had fewer suicides than the overall Maryland rate. The rate of suicide was highest among the elderly. While 11.4% of the population of Maryland are over 65 years of age, in this study 17.4% were in that age group. The three most common causes of death were gunshot wounds (46.7%), asphyxia (26.4%) and drug intoxication (13.5%). Less common were blunt force injuries (5.5%), carbon monoxide intoxication (3.8%), sharp force injuries (2.4%), and rarely other methods (such as electrocution) or more than one method (such as gunshot wound and hanging) were employed. Suicides were fewer than expected in Baltimore City per capita and other large metropolitan areas, in part due to the different racial and ethnic mix in urban versus rural populations. The cause of death was influenced by gender [men were nearly ten times (627 cases men versus 63 cases women) as likely to use guns, whereas drug intoxication was almost equally distributed between the genders], age (there were no suicides by sharp force injuries in the adolescent group, where the most common cause of death was asphyxia due to hanging) and racial/ethnic background (asphyxia was the most common cause of death among Asian [48.6% of all suicides in this group] and Hispanics [45.2%], while gunshot wounds were the most common cause in African Americans [49.3%] and Caucasians [47.8%]).

Conclusions: A three year cross sectional study of suicide in Maryland confirmed known risk factors (male gender, Caucasian race, and old age) and also found association between these risk factors and the cause of death (suicide method). These associations may be useful in targeting efforts at prevention.

Suicide, Cause of Death, Risk Factors