



Pathology/Biology Section - 2014

G43 Adolescent Suicide: A 30-Year Retrospective Review

Benjamin Mathis, MD, 555 NE 34th Street, Apt 2002, Miami, FL 33137; and Kenneth D. Hutchins, MD*, Miami-Dade County, Medical Examiner Dept, #1 on Bob Hope Road, Miami, FL 33136*

After attending this presentation, attendees will understand the trends relative to adolescent suicide over a 30-year period in the Miami-Dade County District of the Florida Medical Examiner System.

This presentation will impact the forensic science community by making known the problem of adolescent suicide including demographics and trends of suicide modality over time.

Suicide is the tenth leading cause of death across all ages in the United States and has been described as the third leading cause of death in adolescents and young adults 10-24 years of age. Though suicide among adolescents is rare, it is rising in some jurisdictions and becoming a major public health problem. This study reviewed case materials for suicides in children younger than 18 years of age that were investigated by the Miami-Dade County District jurisdiction from 1982 to early 2013. Over these approximately 30 years, there were 187 suicides committed by children younger than 18 years of age compared to 7,661 suicides committed by adults during the same time period. Adolescent suicides comprised 2.4% of suicides overall and ranged from 0.5-6.3% over the years of the study. On average, there were six adolescent suicides per year. The highest number of adolescent suicides was in 1988 when there were 14; the lowest number was in 2006 when there was a single case. The mean and median ages of the decedents were 15.23 years and 16.00 years, respectively. The age range of the decedents was from 8 to 17 years. Of the adolescent suicides, 78% were male and 22 % were female. Forty-two were Black and 140 were White. One was of unknown race. Four were described only as Hispanic. Suicide notes were found in 20 cases (10.8%).

Gunshot Wound (GSW) was the most common method of committing suicide, comprising 57% (106). Eighty-five boys and 21 girls committed suicide by gunshot. Asphyxia, including 48 hangings and one suffocation with a plastic bag, was the second most common modality, comprising 27% of suicides. Forty-three boys and six girls died by asphyxia. Other modes included poisonings (13), blunt trauma from falls from height and an intentional collision with a train (9), drowning (9), and thermal injury (1). In the majority of the traumatic suicides, no drugs were detected.

Of the 106 cases of adolescent suicide by GSW, 12 were the result of Russian roulette and three were alleged to have been "playing" with a gun. From 1982 through 2005, GSW consistently outpaced hanging as the most common suicide modality; however, from 2010 through early 2013, there were only four GSW suicides compared to 19 other modality types including 15 hangings.

Girls used poisoning as a suicide modality more frequently than boys. The 13 deaths by poisoning included ten girls and three boys. These suicides by poisoning were confirmed by toxicological analysis.

This study confirms the reported gender disparity in suicide as well as the disproportionate use of guns in boys and poisoning in girls. The risk factors for suicide in adolescents are a history of a previous attempt, depression or mental illness, alcohol or drug abuse, a stressful life event, and incarceration. The vast majority of these cases had one or more of these risk factors. Interestingly, in this jurisdiction, despite the increased availability of firearms, the number of suicides by GSW has been declining among adolescents while the number of suicides by asphyxial means has been rising. Prevention measures focused solely on restricting access to the most lethal means, i.e., firearms, are likely to have limited success since the choice for the method of suicide appears to be most influenced by what is readily available and convenient.

Suicide, Adolescent, Pediatric