E102 A Five-Year Retrospective Study on Suicide and the Use of Antidepressants in Washington, DC

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After attending this presentation, attendees will: (1) understand the need to examine suicidal data; (2) realize the responsibility of death investigators and health agencies to discuss depression and suicide; and, (3) be aware of the trends in drugs taken at the time of death.

This presentation will impact the forensic science community by raising awareness of the impact of prescribing antidepressants and whether this has affected the suicide rate in Washington, DC. This presentation will also open a much-needed discussion regarding depression and other mental illnesses.

Suicide is a major public health concern because it takes the lives of more than 40,000 people nationwide and is the tenth leading cause of death in the United States. According to the National Institute of Mental Health, the suicide rate increased 24% from 1999 to 2014.[1]

Interestingly, while the suicide rate in the United States is increasing, Washington, DC's, rates have decreased 24.6% from 2014 to 2015.[2] In fact, Washington, DC, has one of the lowest suicide rates in the country.[3] The suicide rate in Washington, DC, is significantly less than nearby Virginia and West Virginia. The precise reason for this difference is unknown and warrants investigation. The difference could be due to differences in drugs taken by the decedents, social services available, and/or the recognition of suicidal ideation and public awareness.

Knowledge regarding correlations can give rise to prevention and decreased suicide rates and helps to open discussions about depression and other psychiatric disorders. This work centers on examining the number of deaths by suicide in the past five years and the presence of antidepressants at the time of death.

In 2015, the Office of the Chief Medical Examiner in Washington, DC, investigated 52 suicides, of which 51 decedents were tested for the presence of drugs. The most prevalent drugs found included ethanol, morphine, cocaine, fluoxetine (a Selective Serotonin Reuptake Inhibitor (SSRI)), and bupropion (not an SSRI). The leading cause of death from suicide in Washington, DC, is by firearms, which increased 25% from 2014 to 2015 (versus death by hanging, which decreased from 32% in 2014 to 23% in 2015). Ethanol was found in ~30.8% of suicide deaths in 2015.[2]

In contrast to the popular SSRIs, bupropion is atypical and acts as a Norepinephrine-Dopamine Reuptake Inhibitor (NDRI). There are many antidepressant medications being prescribed today, with SSRIs being the most popular. These SSRIs change the chemicals in the brain that may be unbalanced in people with a major depressive or anxiety disorder. It works by blocking the reabsorption of serotonin, thereby increasing serotonin levels. Fluoxetine and citalopram are examples of SSRIs. SSRIs have been shown to decrease violence toward others, but may also lead to increased suicidal ideation and behavior.[4] The Food and Drug Administration (FDA) requires all antidepressants to include a warning stating that antidepressants may increase the risk of suicide in persons younger than 25 years of age. This warning, put into effect in 2007, is based on two reports of a 2-fold increase of the suicidal ideation and behavior in children and adolescents, and a 1.5-fold increase in the 18- to 24-year age group, a slight decrease for those over age 24, and a much lower risk in the 65+ age group.[5]

Mental health is talked about more openly now than in the past, but talk regarding depression and suicide still too often remains off-limits. Both depressed people and society at large are still uncomfortable with these topics. This fear, along with a lack of support, often prevents people from seeking treatment. Analyzing data and promoting discussions about this difficult subject allows us to get one step closer to decreasing the suicide rate. Death investigators have access to analyzable data that may help reduce the number of suicides.

Reference(s):

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2. Government of District of Columbia. Office of the Chief Medical Examiner. *2015 OCME Annual Report.* By Roger A. Mitchell. 2015. Accessed July 23, 2017.
3. Facts & Statistics. *American Association of Suicidology.* Web. 27 July 2017.
4. MBA, Annette (Gbemudu) Ogbru, PharmD. *The Comprehensive List of Antidepressants.* RxList. N.p.Web. 27 July 2017
5. *Antidepressant Medications for Children and Adolescents: Information for Parents and Caregivers.* National Institute of Mental Health. U.S. Department of Health and Human Services, Web. 27 July 2017.

Suicide, Antidepressants, Death Investigation

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