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I31 Epidemiological Study on Suicide Victims in Southern Italy and the Role of Psychoactive Substances

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After attending this presentation, attendees will understand the epidemiological impact of suicides in southern Italy. This presentation will also illustrate the correlation between peri-mortem use of psychoactive substances and suicide.

This presentation will impact the forensic science community by providing new information about suicide, in addition to that pre-existing in literature, which can lead to a new approach in the prevention of suicide. Greater comprehension of the mechanisms that lead to the choice of one method over another will likely help identify subjects with a higher risk of suicide.

Suicide is still one of the most important causes of death in the world. It is a public health issue that affects society and has a continuing ripple effect, dramatically affecting the lives of families, friends, and communities.

A World Health Organization (WHO) report reveals an annual global age-standardized suicide rate of 11.4 per 100,000 of the population (15.0 for males and 8.0 for females) and an estimated number of suicides in Italy (2000-2012) of approximately 3,908, with a prevalence of males over females.¹

The characteristics and methods change considerably between different communities. Consequently, epidemiological data on suicides is an essential component of national and local suicide prevention efforts. Alcohol and drug use and abuse can substantially influence suicide rates.

With this in mind, suicide victims in Calabria in southern Italy, have been analyzed from 2006 to 2015. The data was limited to victims who received autopsies and various tests, as it was gathered from coroner/medical examiner reports, as well as toxicology and laboratory reports (blood, vitreous humor, and urine analysis). The total number of cases was 159. The cases were analyzed by gender, age, results of toxicological examination, and method of suicide.

Regarding gender, 84% of the suicide victims were males and 16% were females. Our data, according to the international literature, suggest that men, particularly older men, have a higher suicide rate than do women at any age. Females are less prone to suicide and their method of choice is falling from heights. On the other hand, the method of choice for males is either by hanging or guns.

From the analysis of the sample, it was found that the 53% were positive for alcohol and/or drugs. Of these, the majority were men (>90%). Among the males who committed suicide, 39 subjects were positive for alcohol (Blood Alcohol Concentration (BAC) >0.2g/l, 51%) and 10 subjects were positive for polydrug use (13%). Only five females had a BAC above 0.2g/l. No women were positive for the combined use of alcohol and drugs. In the entire sample, the BAC ranged from 0.20g/l to 4.85g/l. The majority of victims who were positive on toxicological investigation were between 30 and 49 years of age.



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This study revealed that the combined use of alcohol and drugs can be, especially in males, a risk factor for the choice of the most violent method of suicide (e.g., self-cut throats, rail suicides) as this can lead to an increase in risk taking.

In conclusion, this study emphasizes the importance of postmortem examination and, most of all, the continued reporting of toxicologic findings in suicides. It is useful to monitor patterns of psychoactive substance use as this can help guide suicide prevention in clinical practice and public health policies. Finally, the importance of postmortem “psychological autopsy” studies are stressed to ascertain if the victims were alcohol and/or drugs abusers.

Suicide prevention efforts require coordination and collaboration among multiple sectors of society, including both health and non-health sectors (such as education, justice, law, and the media).

Reference(s):

1. World Health Organization. *Preventing suicide: a global imperative*. 2014. From: http://www.who.int/mental_health/suicide-prevention/world_report_2014/en/.

Suicide, Psychoactive Substances, Prevention