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## FORENSIC MEDICINE PROFESSIONAL SERVICES IN CANTON TICINO (SWITZERLAND):3 YEARS OF EXPERIENCE

**Abstract:** A report about the co-operation between the Justice Department of a Swiss Federal State (Canton Ticino) and the Forensic Medicine Institute of Insubria University (Italy) from October 2005 to September 2008 is presented.

The medico-legal activity performed consisted in death scene investigation, external examinations of corpses, autopsies and examinations on people in suspected sexual assault and criminal injuries.

Statistical elaborations of our activities and, in particular, of the causes of death are illustrated.

### Introduction

Since October 2005 the Forensic Institute of Insubria University of Varese (Italy) cooperates with the Justice Department of Canton Ticino Swiss Federal State. Our Institute is located about ten kilometres from Swiss customs, so when our assistance is requested by Scientific Police (on Public Attorney indication), the forensic doctor on duty can arrive in only few minutes.

A report about 3 years of medico-legal activity performed, from October 2005 to September 2008, is here presented. Our medico-legal activity performed consists in death scene investigations, external examinations of corpses, autopsies and examinations on people in suspected sexual assaults and criminal personal injuries.

In the present diagram (Fig.1) our forensic activity resume on dead people, performed in three years is represented. Autopsies number is grown in the course of time, while external examinations and death scene investigations number is decreased. Statistical data at USTAT (Uffcio di Statistica del Canton Ticino) web-site reveal that in the year 2007 the resident population in Canton Ticino was about 324.851 people, and dead people was 2.762.

During this year we performed sixty-six autopsies and thirty-six external examinations. This means that the 3.7% of all deaths were of forensic interest.

With reference to autoptical activity we made a statistical elaboration about death causes.

In particular, in three years, we performed 195 autopsies, 133 of which (68%) concerned violent deaths and only 62 (32%) natural deaths (Fig.2). In acknowledgement of international data on death causes, the majority of natural death causes is consequence of vascular-heart diseases, such as heart attack and aneurysms (Fig.3).

As far as violent deaths, 95 of them (the majority) were caused by accidental events, 35 by suicides and only 4 by homicides (Fig.4). This last datum seems to be a very interesting information if we consider that on about 325.000 residents, in three years, there were only four events of this kind. In particular an homicide occurred by gun-shot, two by assaults (in one of this cases the perpetrator and the victim were disturbed) and one by manual strangulation.

Very significant appear also data about suicidal deaths (Fig.5). There is a perceptible difference in regard of manners related to the gender, following what known in criminological literature. Males prefer precipitation and gun-shot, followed by hanging and drugs and alcohol poisoning. Instead females prefer drugs poisoning followed by drowning and precipitation. A singular case is represented by a woman who chose to be assisted in her suicide (this practice is allowed by Swiss law). Likewise interesting is a case of a young boy, who committed suicide by poisoning with nitrogen.

With reference to accidental deaths (Fig.6) the first cause of death is represented by traffic accidents (mostly motorcycles and motor vehicles, only in few cases pedestrian are involved).

In Canton Ticino a lot number of death are caused by drugs overdose, mostly by heroine and for the most part males are involved. This datum is in contrast with what happens on Varese Prosecuting Attorney's Office, where deaths by drugs intoxication are very uncommon. Four of deaths caused by accidental precipitation are due to accidental falls during mountain trails (in relation with morphological area characteristics).

Our medico-legal activity regards also examinations in cases of sexual assaults and personal injuries (Fig.7). The sexual assault number seems to be constant in the three years considered, while the number of examinations in case of personal injuries is exponentially grown (tripled). This datum should be considered important from a social-criminalistic point of view.

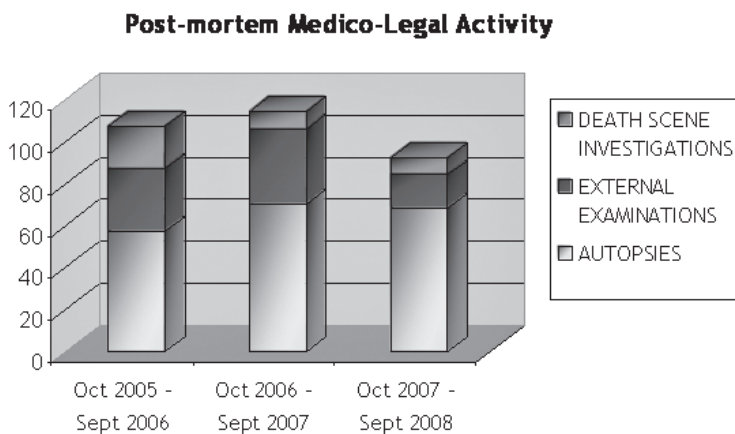


Figure 1 – 3-years post mortem medico legal activity, from October 2005 to September 2008.

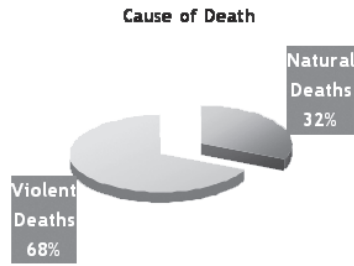


Figure 2 – Causes of death: autopsies performed revealed that the 68% of all deaths concerned violent causes and the 32% natural causes.

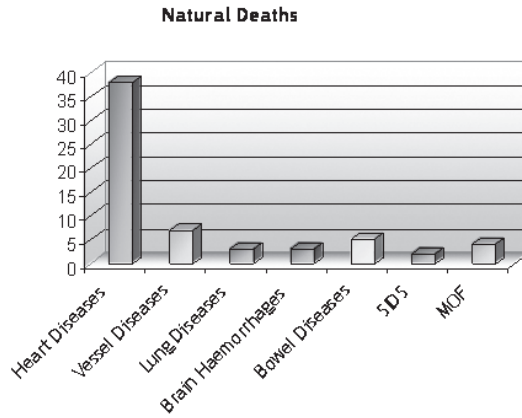


Figure 3 – Natural causes of death. The first natural cause of death is represented by heart disease.

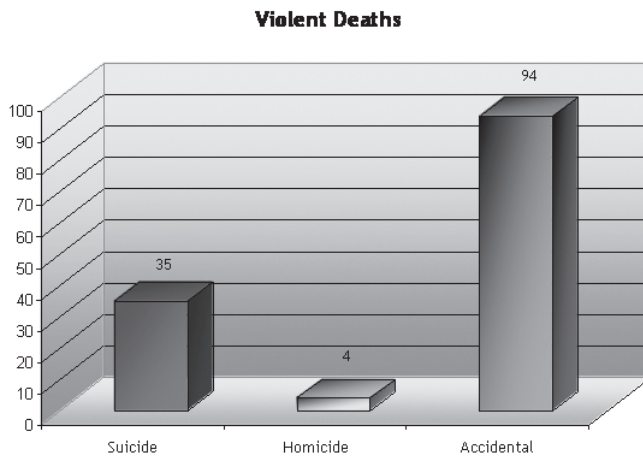


Figure 4 – Violent causes of death: 95 accidental events, 35 suicides and only 4 homicides.

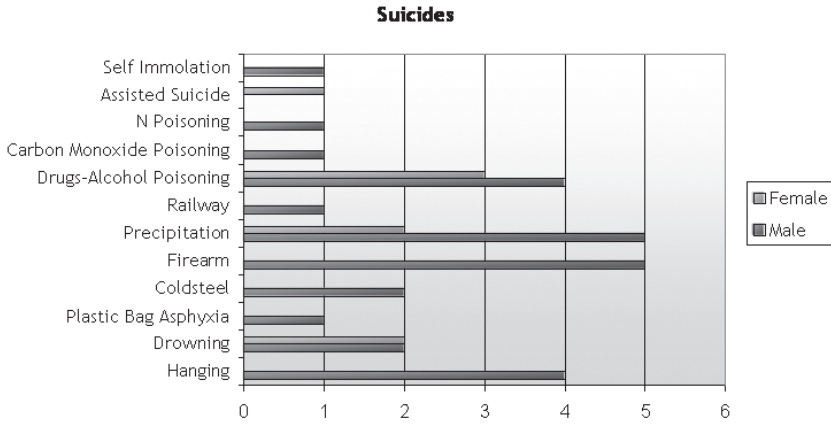


Figure 5 – Suicidal events and gender subdivision.

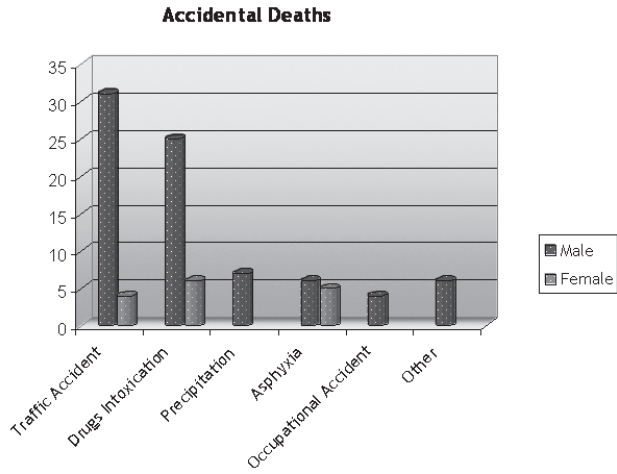


Figure 6 – Accidental deaths and gender subdivision.

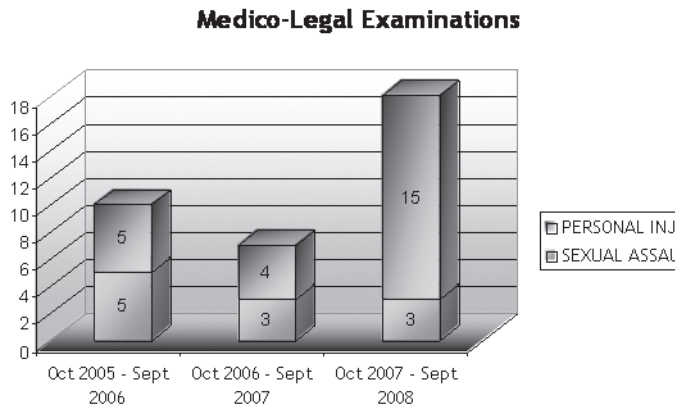


Figure 7 – Medico legal examination performed in case of sexual assaults and personal injuries.