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Authors: Anna Carfora, Carlo Pietro Campobasso, Paola Cassandro, Raffaella Petrella, Renata Borriello



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## ALCOHOL AND DRUGS USE AMONG DRIVERS INJURED IN ROAD ACCIDENTS IN CAMPANIA (ITALY). A 8-YEARS RETROSPECTIVE ANALYSIS

Authors: Anna Carfora <sup>a\*</sup>, Carlo Pietro Campobasso <sup>a</sup>, Paola Cassandro <sup>a</sup>, Raffaella Petrella <sup>a</sup>, Renata Borriello <sup>a</sup>

<sup>a</sup> Department of Experimental Medicine - Forensic Toxicology Unit – University of Campania “L. Vanvitelli”, Via L. Armanni, 5, 80138 Napoli - Italy

Authors mail: renata.borriello@unicampania.it; carlopietro.campobasso@unicampania.it; paola.cassandro@unicampania.it; raffaptr@tiscali.it;

\*Corresponding Author: anna.carfora@unicampania.it, phone:+39 0815666017; cell:+39 3290245927; fax:+39 0815667720

### Highlights:

- An increasing trend of alcohol/drugs intake among injured drivers has been observed
- Cannabis was the substance mainly used among injured drivers from 2009 to 2016 in Campania (Italy)
- Toxicological analyses confirmed road crime evidence in 84.6% of DUI/DUID cases
- Blood analysis by GC-HS or GC/MS should be mandatory in drug-related road crimes

### ABSTRACT

A recent update of the Italian Road Traffic Law (RTL 41/2016), established severe penal sanctions when drivers, driving under the influence of alcohol (DUI) or drugs (DUID), are involved in road accident that results in death or injuries. A study was carried out to assess the trends of consumption of alcohol, illicit drugs or pharmaceutical among injured drivers suspected for DUI or DUID from 2009 to 2016 in the region of Campania (Italy). Confirmation toxicological analyses were performed on 780 blood samples and 1,017 urine samples collected from 1,797 injured drivers. These drivers all tested positive for alcohol or drug use through immunoassay screening applied at hospital emergency units and their biological samples transferred to the Forensic Reference Laboratory (FRL) for confirmation analysis. The GC/HS-FID methodology was used to test Blood Alcohol Concentration (BAC). Qualitative and quantitative analyses for drugs were performed using the GC/MS or LC-MS/MS methodology.

The BAC >0.5 g/L was confirmed in 91.5% of drivers suspected for DUI cases and in 93% of DUID respectively. In DUI cases, results show an increasing incidence of road accidents involving drivers with BAC above 1.5 g/L while at concentrations above 0.8 g/L alcohol and drugs are both used. Among the suspected DUID cases, the intake of alcohol in association with drugs has consistently increased over time and positive results on blood samples was confirmed for multiple drugs (20%) or cannabis and cocaine alone (18%) followed by benzodiazepines (6%) and

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