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AIM: To determine the prevalence of cannabis (THC), methamphetamine (MA) and methylenedi-oxy-methamphetamine (MDMA) in randomly selected drivers of motor vehicles in Victoria.

METHODS: A preliminary breath test for alcohol was first conducted on randomly selected drivers stopped at a road block. If this was below the prescribed legal limit police conducted a drug test using the DrugWipe II® (Securetec) from a tongue wipe while the driver was still in the vehicle. The presence of a clear positive band for either THC or MA, or both, resulted in a second test conducted in a specially designed "Drug Bus" using a specimen of oral fluid collected by the Cozart Collector. An aliquot of oral fluid collected was tested on the Rapiscan®. The methamphetamines test strip had similar cross-reactivity to MA and MDMA. Oral fluid on presumptive positive cases was sent to the laboratory for confirmation using GC-MS with limits of quantification of 5, 5 and 2 ng/mL for MA, MDMA and THC, respectively. In cases where oral fluid could not be taken blood was collected and analyzed by similar methods.

RESULTS: Recovery experiments conducted in the laboratory showed quantitative recovery of analytes from the Cozart collector. There were 13,176 road-side drug tests performed in the first year of the random drug testing program conducted in the state of Victoria. These road-side tests gave 313 positive cases following GC-MS confirmation. These comprised 269, 118 and 87 cases positive to MA, MDMA and THC, respectively. The median oral concentrations (undiluted) of MA, MDMA and THC was 1136, 2724 and 81 ng/mL. The overall drug positive rate was 2.4 % of the screened population. This rate was highest in drivers of cars (2.8 %). The average age of drivers detected with a positive drug reading was 28 years. Large vehicle (trucks over 4.5 tonnes) drivers were older on average at 38 years. Females accounted for 19 % of all positives, although none of the positive heavy vehicle drivers were female. There was one false positive to cannabis when the results of both on-site devices were considered and four to methamphetamines.

CONCLUSIONS: These results show a drug positive rate for the selected drugs 240 % higher prevalence than for alcohol and confirm the presence of a significant drug-driving problem in this State. It is hoped that these random testing programs will continue and will ultimately not only reduce the incidence of drug driving but associated road trauma.

KEYWORDS: *On-site drug testing, Oral fluid, Methamphetamines, THC, Random drug testing, Drivers, GC-MS confirmation*

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