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Authors: Elena Lendoiro, Ana de Castro, Cristian Jiménez-Morigosa, Xosé A. Gomez-Fraguela, Manuel López-Rivadulla, Angelines Cruz



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Usefulness of hair analysis and psychological tests for identification of alcohol and drugs of abuse consumption in driving license regranting

Elena Lendoiro^{a,b*}, Ana de Castro^a, Cristian Jiménez-Morigosa^a, Xosé A. Gomez-Fraguela^c, Manuel López-Rivadulla^a, Angelines Cruz^a

^aSección de Toxicología, Instituto de Ciencias Forenses, Universidad de Santiago de Compostela, Spain

^bSchool of Pharmacy and Life Sciences, The Robert Gordon University, UK

^cDepartamento de Psicología Clínica y Psicobiología, Facultad de Psicología, Universidad de Santiago de Compostela, Spain

*Corresponding autor:

Dra. Elena Lendoiro

Sección de Toxicología, Instituto de Ciencias Forenses, Faculty of Medicine

C/San Francisco s/n, 15782 Santiago de Compostela, Spain

Phone: +34 881812446; Fax: +34 881812459

Email: elena.lendoiro@usc.es

Highlights

- AUDIT score ≥ 8 , indicated hazardous and harmful alcohol use, in 52.4% of drivers.
- DAST-10 score ≥ 6 , showed drug abuse and dependence problem, in 21.3% of drivers.
- Hair EtG concentration proved chronic consumption of alcohol in 34.4% drivers.
- 58.8% hair samples were positive for drugs (n=17), being cocaine the most detected.
- Significant Spearman correlation between AUDIT score and hair EtG ($r=0.331$, $p<0.05$).

Abstract

The implementation of the points-based driving license helps to change the drivers' behavior and is related to a reduction of traffic accidents and fatalities. In Spain, when a driver loses all points, the driving license is revoked, so the driver must enroll on a Driver Awareness and Re-education (DARE) course. However, at the moment offenders are not submitted to any test to confirm absence of alcohol or drugs of abuse consumption, even when 9% of Spanish drivers lose their driving license for driving under the influence (DUI). The objective of this pilot study was the comparison of the usefulness of psychological tests and hair analysis to identify those individuals with a chronic consumption of alcohol and drugs of abuse among drivers performing DARE courses. Volunteers were submitted to the AUDIT and DAST-10 tests. Also a hair sample was collected and analyzed for ethylglucuronide (EtG) (LOQ 5pg/mg) and 35 licit and illicit drugs (LOQ 5-50pg/mg) by LC-MS/MS.

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