

SOCIOECONOMIC INEQUALITIES IN FATAL OPIOID AND COCAINE RELATED OVERDOSES: TRANSGENERATIONAL BAGGAGE VERSUS INDIVIDUAL ATTAINMENTS

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ABSTRACT

Background To determine socioeconomic inequalities in opioid and cocaine related Fatal OverDose (FOD) cases and their implications in terms of prevention. **Methods** Cross-examination of healthcare and forensic data in a nested case-control study design. FOD cases (272) were individually matched with 4 controls (1,056), according to sex, year of birth, drug administration route, duration of drug use and compared through conditional logistic regression. **Findings** Employment [OR=0.662(95% CI 0.446–0.985)], legal salary as main income [OR=0.417(95% CI 0.258–0.674)] and educational attainment higher than primary school [OR=0.501(95% CI 0.344–0.729)] revealed to be protective, whereas parental professional status was not associated to FOD. **Discussion** Among peers, drug users with lower socioeconomic profiles show increased odds of FOD. However, self-referred socioeconomic characteristics, impacting on daily life quality, such as education, employment and revenue, were more predictive of FOD than transgenerational factors (e.g. parental social status). Thus, motivational interventions fostering socio-professional integration should be given due attention in dedicated harm prevention policies.

Background

Fatal overdose caused by the use of illicit drugs in Europe accounts for an estimated 4% of premature death in young adults aged 15-39 years (EMCDDA, 2011).

Social and economic conditions shape risk behaviours and the health of drug users as they impact on drug use patterns and affect the availability of resources and access to social welfare systems. Nonetheless, fatal overdoses are avoidable to a large extent. Our objective is to assess the impact of social and economic parameters may have on the occurrence of fatal overdoses caused by the use of opiates and cocaine.

METHODS

Case definition. A fatal overdose case is defined as an intentional or unintentional death for which an acute adverse reaction after the recent use of products containing opioids and/or cocaine is reported as the primary cause of death in the light of toxicological and forensic evidence.

Instruments and measures. A nested case-control study design was chosen. Cases are defined as victims of a fatal overdose having occurred in Luxembourg between 1994 and 2011. Matched controls refer to persons indexed by the national surveillance system on drug users in contact with national services (RELIS). Cases were matched with four controls, on sex, year of birth, drug administration route and duration of drug use.

Statistical analyses. Our sample was composed of 1,328 persons including 272 fatal overdose cases and 1,056 controls. Conditional logistic regression analysis was performed on the entire study sample in order to assess the respective impact of the explanatory variables on the occurrence of fatal overdoses.

FINDINGS

Professional activity/employment [OR=0.66 (95% CI 0.45–0.99)], reporting salary as main legal income source [OR=0.42 (95% CI 0.26–0.67)], and educational attainment higher than primary school [OR=0.50 (95% CI 0.34–0.73)], revealed to be protective factors of fatal overdoses. The professional status of the father or legal guardian of victims is not significantly associated to overdose deaths.

Results of conditional logistic regression analysis run on original data and on imputed data converged for all explanatory variables and categories.

Table 1. Odds Ratios (OR) (CI: 95%) of explanatory variables as determined by conditional logistic regression on imputed data

Predictor	OR ^a	95% CI ^b	p
Occupational status of victim			
Paid professional activity/employment vs Professional inactivity	44.4%	0.45 - 0.99	.042
Main income source			
Salary of legal origin vs Other income source	0.42	0.26-0.67	<.001
Educational attainment			
Secondary school degree vs Primary/elementary school degree	0.42	0.26-0.67	<.001
Professional status of legal guardian			
Qualified manual worker	1.16	0.72 - 1.85	.543
White collar, service provider	0.89	0.54 - 1.45	.628
Intermediate occupation, Manager function (employed)	0.52	0.20 - 1.39	.192
Intellectual self-employed profession vs Unqualified manual worker	0.66	0.22 - 2.04	.472
	1.31	0.69 - 2.47	.411

^a Odds ratio. ^b Confidence Interval.

DISCUSSION

Our results suggest that social and economic factors impact on the occurrence of fatal overdoses, but not necessarily all factors and not necessarily in the same way. Unemployment, unstable/illegal income and lower educational attainment of victims were associated to overdose mortality, whereas the professional status of their parental authority was not at any level. In the light of these outcomes, one may speculate that socioeconomic disadvantages act on individual level, according to their impact on daily life rather than to follow the paths of intergenerational determinism.

Thus, integrating motivational interventions fostering socio-professional integration in harm reduction programs and developing adequate tools for early recognition of overdose risk contexts could potentially save lives, generate years of life without major impairments and enhance evidence based prevention policies.

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