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The association between social marginalisation and the injecting of alcohol among IDUs in Budapest, Hungary

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Abstract

Background—Alcohol injecting may cause intense irritation, serious vein damage, and additional risks. What little is known about alcohol injecting points to the potential role of social marginalisation.

Methods—Injecting drug users (N=215) were recruited between October 2005 and December 2006 in Budapest, Hungary from non-treatment settings. Multivariate logistic regression models identified correlates of lifetime alcohol injecting.

Results—About a quarter (23%) reported ever injecting alcohol – only 3% reported injecting alcohol in the past 30 days. In multivariate analysis, six variables were statistically significantly associated with ever injecting alcohol: male gender, being homeless, ever sharing cookers or filters and injecting mostly in public places showed a positive association, while Roma ethnicity and working at least part time showed a negative association.

Conclusions—Our study suggests that alcohol injecting is more of a rare event than a so far undiscovered research and prevention priority. Still, providers of harm reduction services should be aware that alcohol injecting happens, albeit rarely, especially among socially marginalised IDUs, who should be counselled about the risks of and discouraged from alcohol injecting.

Keywords

Alcohol; injecting drug use; Hungary; Central Europe; risk behaviours

Introduction

The fastest absorption and metabolism of drugs, including alcohol, is provided by injecting, with a large amount of drug getting into the brain much faster than via any other route of administration (European Monitoring Centre for Drugs and Drug Addiction, 2010). Alcohol injecting (also called parenteral alcohol use) thus may have an effect similar to drinking a large amount of alcohol in a short time (Page & Miguez-Burbano, 2000). The injecting of alcohol, therefore, may lead to all the effects of severe intoxication, including accidents and injuries, violent behaviour, suicide, neurocognitive deficits and other brain damage, alcohol poisoning, or even death (Page & Miguez-Burbano, 2000). In addition, alcohol injecting may also cause intense irritation and serious vein damage (Flemen, 2008).

Little is known about alcohol injecting, since there are only brief mentions of it, some in connection with social marginalisation, from studies in Argentina, Australia, Colombia,

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Hungary, Nigeria and the United States (AH&MRC Consultancy Service & Mandala Consulting, 2004; Ball, 1998; Des Jarlais, Perlis, Stimson, & Poznyak, 2006; Epele, 2010; George, Fetherston, Lenton S, & Santana L, 2008; Grund, Öfner, & Verbraeck, 2000; Newman & Moon, 2004). Alcohol injecting may be infrequent (George et al., 2008; Newman & Moon, 2004), and usually pure alcohol used in medical settings or strong spirits are injected (Flemen, 2008). We found only two extensive reports on alcohol injecting, which described that it occurred mainly in the context of multidrug use, and reasons for alcohol injecting included socially marginalised people using it to mediate the effect of other drugs, to save money, to enjoy the injecting or to have the rapid effect of alcohol without the smell, and young people getting around their parents' strict ban of drinking alcohol (Page & Miguez-Burbano, 2000; Mahdi & McBride, 1999).

In our previous ethnographic studies in Hungary some socially marginalised injecting drug users (IDUs) reported injecting alcohol (Gyarmathy & Neaigus, 2005; Gyarmathy, Neaigus, Ujhelyi, Szabo, & Racz, 2006). The aim of this analysis was to shed some more light on this albeit rare but dangerous injecting behaviour among a sample of injecting drug users in Hungary, and to test the hypothesis that the injecting of alcohol may be associated with social marginalisation. In this study, we operationalise social marginalisation by having low (less than high school) education, homelessness, income from illegal activities, unemployment and low income (less than the HUF equivalent of about 400 EUR per month). While other variables and characteristics may also indicate social marginalisation, in our preliminary studies on marginalised and socially integrated drug users in Budapest, Hungary (Gyarmathy & Neaigus, 2005) we found that the two groups differed mainly in these socioeconomic characteristics.

Methods

Setting and participants

Between October 2005 and December 2006, a combination of street outreach and chain referral methods was used to recruit 215 IDUs in Budapest, Hungary from non-treatment settings (Gyarmathy, Neaigus, Mitchell, & Ujhelyi, 2009; Gyarmathy, Neaigus, & Ujhelyi, 2009) for a cross-sectional research study assessing network risk for HIV, HBV and HCV. Recruitment targeted areas of the city where drug users were observed to often congregate. Participants were also referred by other IDUs who were in the study. Eligibility criteria were age of 18 or above and self-report of drug injecting in the past 30 days. The latter was verified by inspecting injecting marks. Compensation was HUF 2000 (about EUR 8) for being interviewed and HUF 500 (about EUR 2) for bringing in eligible network members or other IDUs. Eligible participants provided their informed consent and were administered an about 2-hour long structured survey interview. Interview questionnaire was adopted from our earlier studies among injecting and non-injecting drug users in the New York metropolitan area (Gyarmathy et al., 2002; Neaigus et al., 2007; Neaigus et al., 2008; Gyarmathy et al., 2009). After the interview, participants underwent counselling about drug use related infections. The Institutional Review Boards at the National Development and Research Institutes, Inc. in New York, USA and the Hungarian Academy of Sciences in Budapest, Hungary approved all human subjects procedures.

Measures and variables

The dependent variable in this analysis was self-report of ever injecting alcohol. Independent variables measured sociodemographic variables: gender (female vs. male), age, years since first injecting, and Roma ethnicity (vs. non-Roma – participants self-reported their ethnicity); and socioeconomic variables: less than high school education, self-report of homelessness, income from illegal activities, being unemployed (vs. working at least part

time – officially or unofficially), and income of HUF 100 000 (about EUR 400) or less per month. Independent variables assessing drug and sex characteristics included currently being in drug treatment, ever engaging in any receptive or distributive syringe sharing, ever sharing cookers or filters or backloading, ever having unprotected sex and in the past 30 days: drinking alcohol daily, types of drugs injected (heroin only, heroin and amphetamines, amphetamines only, other) number of times injected, the number of people they injected with (size of injecting network), injecting with a person known to be HCV infected, and injecting mostly in public places. In addition, on the basis of five questions (Gossop, Griffiths, Powis, & Strang, 1992) we also assessed the severity of heroin dependence (all participants) and the severity of amphetamine dependence (186 participants – this question was added to the questionnaire later).

Statistical analysis

Univariate analyses with contingency tables to describe distribution and chi-square tests with corresponding p-values were used for categorical variables. T-test assessed differences in the means of continuous variables. Variables with at least marginal ($p < 0.20$) association in the univariate analysis were chosen for logistic regression analysis. Multivariate logistic regression with backwards elimination was used to assess significant associations with ever injecting alcohol. Then stepwise selection was used to confirm the variable selection of backwards elimination. The results were identical for backwards elimination and stepwise selection. Since amphetamine dependence had a univariate significance level above 0.2, the issue in multivariate analysis of missing values became irrelevant. Adjusted odds ratios (aOR) and 95% confidence intervals (95%CI) of the final multivariate regression models are reported.

Results

Sample characteristics

About three quarters (77%) of the sample were male, and the mean age was 27.9 years (median=27, SD=6.5, range: 18–56) (Table 1). About one fifth (21%) was Roma, about three quarters (76%) had less than high school education, and 13% were homeless. About a third (31%) reported income from illegal activities, about four fifth (78%) were unemployed, and about half made less than HUF 100 000 (EUR 400) per month. About a quarter (23%) reported ever injecting alcohol – only 6 men (3% of participants) reported injecting alcohol in the past 30 days.

Correlates of alcohol injecting

In univariate analysis, ever injecting alcohol was at least marginally significantly associated with male gender, older age, more years since first injecting, less than high school education, homelessness, income from illegal activities, being unemployed, daily alcohol drinking, number of times injecting in the past 30 days, ever engaging in receptive or distributive syringe sharing, ever sharing cookers or filters, size of the injecting network, injecting with a person known to be HCV infected, injecting mostly in public places, and heroin dependence score. Alcohol injecting was inversely associated with Roma ethnicity. In multivariate analysis, six variables were statistically significantly associated with ever injecting alcohol: male gender, being homeless, ever sharing cookers or filters and injecting mostly in public places showed a positive association, while Roma ethnicity and working at least part time showed a negative association (Figure 1).

Discussion

This study assessed the extent and correlates of alcohol injecting among a sample of injecting drug users in Budapest, Hungary. We found that a relatively large proportion (almost a quarter) of IDUs in this study had injected alcohol at some time in the past, but only a very small portion injected in the past month. Our main findings confirmed our hypothesis that alcohol injecting was connected to social marginalisation.

To better understand some of our results, it may be informative to discuss some limitations first. This sample may not be a representative sample of all IDUs in Budapest, or all IDUs in Hungary, and alcohol injecting may be either more or less common in other populations of IDUs within the city or in other cities. One major limitation of this analysis is that because past-30-day alcohol injecting is a very rare event, we were unable to conduct any meaningful analysis using that variable and we were left to analyze associations with lifetime alcohol injecting. While the risk behaviours of injecting drugs users may change during their lifetime, the social marginalisation of IDUs appears to be deep-rooted and thus long-lasting (Dubois-Arber et al., 2008; Lindenburg et al., 2006). Therefore, it comes as no surprise that past-30 risk behaviours – such as daily alcohol use or the number of times injected – were not associated in the multivariate analysis with lifetime alcohol injecting, while variables – such as homelessness, not working at least part time, and injecting mostly in public places – that indicate social marginalisation were. Our finding of an association between alcohol injecting and any lifetime receptive or distributive syringe sharing indicates that those IDUs who inject alcohol may not only be socially marginalised, but may also be a group with more frequent injecting risk behaviours.

The Roma are a socially marginalised ethnic group within Hungary (Molnar, Adany, Adam, Gulis, & Kosa, 2010), and the use of both legal and illegal substances are more common among Roma than non-Roma groups (Gerevich, Bacskai, Czobor, & Szabo, 2010). It is therefore surprising that Roma ethnicity was a protective factor for alcohol injecting in this study. One study in Hungary that assessed the effect of socio-economic status on the association between health behaviour and Roma ethnicity, however, found that socio-economic status was an effect modifier: when accounting for socio-economic status, the odds of unhealthy behaviours (such as daily cigarette smoking) were lower among the Roma compared to the odds among the non-Roma (Voko et al., 2009). In a sub-analysis of our sample, among those who were not homeless only 8% of Roma vs. 23% of non-Roma injected alcohol ($p<0.05$), whereas no significant difference was found between ethnic groups among the homeless. We were, however, unable to include effect modification in our models due to the small sample sizes (sometimes $n=0$) of the stratified cells, which would have made multivariate logistic regression analysis impossible or the wide confidence intervals meaningless. This effect modification of socio-economic status may explain why, in our study, Roma ethnicity was inversely associated with alcohol injecting.

Our study highlights that while lifetime injecting of alcohol was relatively common, it was not among the everyday practices of IDUs in our study sample. While little is known about alcohol injecting, our study suggests that it is more of a rare event than a so far undiscovered research and prevention priority. While our study revealed some aspects of alcohol injecting, other aspects still remain unknown. For example, further ethnographic studies may assess whether there is an influence of low purity of street drugs on the injecting of alcohol, and the role of needle fixation in alcohol injecting. In addition, because alcohol bypasses the metabolic processes in stomach and is introduced quickly to the central nervous system, fatal or nonfatal overdose could occur. Very little is known about overdose due to alcohol injecting – this is another area for further exploratory research. Still, providers of harm reduction services should be aware that alcohol injecting happens, albeit rarely, especially

among socially marginalised IDUs, who should be counselled about the risks of and discouraged from alcohol injecting (Flemen, 2008).

We are currently experiencing economic recession. During recessions, economic activity slows: incomes decrease, unemployment is on the rise and many people become homeless. Among IDUs, injecting in public is more common among the socially disadvantaged (unemployed and homeless) (Richardson et al., 2010; DeBeck et al., 2009). In our study, those who were homeless, unemployed and those who reported injecting in public were more likely to inject alcohol. With changes in the wider economy leading to economic recession, social marginalisation among IDUs may be more common, and risk behaviours associated with social marginalisation – not just the injecting of alcohol, but other risky practices as well – may also become more wide-spread. Providers of harm reduction services may have to be prepared for such changes as a consequence of economic recession.

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Figure 1.

Significant multivariate correlates of self-report of ever injecting alcohol and their adjusted odds ratios with corresponding 95% confidence intervals. Injecting drug users in Budapest, Hungary

Note: the middle number represents the adjusted odds ratio, the top number is the upper confidence limit, and the bottom number is the lower confidence limit.

Table 1

Sample description and univariate correlates of self-report of ever injecting alcohol among injecting drug users in Budapest, Hungary.

Characteristic	ever injected alcohol			Univariate OR (95% CI)
	Total N (%)	no N (%)	yes N (%)	
Total		165 (76.7)	50 (23.3)	
<i>Sociodemographic variables</i>				
Male gender				
no	49 (22.8)	41 (83.7)	8 (16.3)	(reference)
yes	166 (77.2)	124 (74.7)	42 (25.3)	1.7 (0.8, 4.0)*
Age	27.9 (6.5)	27.5 (6.7)	29.2 (5.4)	1.0 (1.0, 1.1)*
Years since first injecting	7.4 (5.3)	6.9 (5.1)	9.0 (5.8)	1.1 (1.0, 1.1)**
Roma ethnicity				
yes	44 (20.5)	39 (88.6)	5 (11.4)	(reference)
no	171 (79.5)	126 (73.7)	45 (26.3)	2.8 (1.3, 7.5)**
<i>Socioeconomic variables</i>				
Less than high school education				
no	52 (24.2)	43 (82.7)	9 (17.3)	(reference)
yes	163 (75.8)	122 (74.8)	41 (25.2)	1.6 (0.7, 3.6)
Homeless				
no	187 (87.0)	150 (80.2)	37 (19.8)	(reference)
yes	28 (13.0)	15 (53.6)	13 (46.4)	3.5 (1.5, 8.0)**
Income from illegal activities				
no	148 (68.8)	125 (84.5)	23 (15.5)	(reference)
yes	67 (31.2)	40 (59.7)	27 (40.3)	3.7 (1.9, 7.1)**
Unemployed				
No	48 (22.3)	46 (95.8)	2 (4.2)	(reference)
Yes	167 (77.7)	119 (71.3)	48 (28.7)	9.3 (2.2, 39.7)**
Income less than or equal to 100 000 HUF/month				
no	105 (48.8)	83 (79.0)	22 (21.0)	(reference)
yes	110 (51.2)	82 (74.5)	28 (25.5)	1.3 (0.7, 2.4)
<i>Drug and sex variables</i>				
Currently in drug treatment				
no	170 (79.1)	130 (76.5)	40 (23.5)	(reference)
yes	45 (20.9)	35 (77.8)	10 (22.2)	0.9 (0.4, 2.0)
Daily alcohol drinker				
no	178 (82.8)	141 (79.2)	37 (20.8)	(reference)
yes	37 (17.2)	24 (64.9)	13 (35.1)	2.1 (1.0, 4.4)*
Drugs injected in the past 30 days				
heroin and no amphetamine	108 (50.2)	83 (76.9)	25 (23.1)	(reference)
amphetamine and no heroin	51 (23.7)	44 (86.3)	7 (13.7)	0.5 (0.2, 1.4)

Characteristic	ever injected alcohol			Univariate OR (95% CI)
	Total N (%)	no N (%)	yes N (%)	
heroin and amphetamine	53 (24.6)	35 (66.0)	15 (34.0)	1.8 (0.9, 3.6)
other drug	3 (1.4)	3 (100)	0 (0)	(reference)
Number of times injected in the past 30 days	32.4 (33.7)	29.0 (31.8)	43.5 (37.6)	1.0 (1.0, 1.0)**
Any receptive or distributive syringe sharing ever				
no	78 (36.3)	69 (88.5)	9 (11.5)	(reference)
yes	137 (63.7)	96 (70.1)	41 (29.9)	3.3 (1.5, 7.2)**
Sharing cookers or filters ever				
no	60 (27.9)	51 (85.0)	9 (15.0)	(reference)
yes	155 (72.1)	114 (73.5)	41 (26.5)	2.0 (0.9, 4.5)*
Size of injecting network	4.0 (4.8)	3.5 (4.8)	5.6 (4.8)	1.1 (1.0, 1.1)**
Injected with a person known to be HCV infected				
no	159 (74.0)	127 (79.9)	32 (20.1)	(reference)
yes	56 (26.0)	38 (67.9)	18 (32.1)	1.9 (1.0, 3.7)*
Injecting mostly in public places				
no	163 (75.8)	134 (82.2)	29 (17.8)	(reference)
yes	52 (24.2)	31 (59.6)	21 (40.4)	3.1 (1.6, 6.2)**
Heroin dependence score	5.1 (4.4)	4.8 (4.4)	6.2 (4.5)	1.1 (1.0, 1.2)*
Amphetamine dependence score (n=186)	0.37 (1.47)	0.31 (1.27)	0.59 (2.06)	1.1 (0.9, 1.4)
Ever had unprotected sex				
no	15 (7.0)	12 (80.0)	3 (20.0)	(reference)
yes	200 (93.0)	153 (76.5)	47 (23.5)	1.2 (0.3, 4.5)

Notes:

* p<0.1

** p<0.05

The category of "other drugs" was combined with the reference category of "heroin only" due to zero cell size.