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EPRG

Introduction

Previous efforts to develop an "empirical typology" (Braucht, Kirby & Berry, 1978) of drug users have had mixed conclusions about the association of alcohol abuse and dependence (AUD) with illicit drugs. The strongest associations have been found between alcohol use and sedative use.

The relationship between alcohol use disorders and non-medical use of prescription drugs (NMUPD) was explored by McCabe, Cranford and Boyd (2006); the prevalence of NMUPD was increased among those with an AUD, especially among those 18 -24.

Aim

We had the opportunity to examine the relationship between lifetime AUDs and NMUPD (sedatives, stimulants and opioids) in a sample of 400 current prescription drug users between the ages of 18 and 65 who reside in the St. Louis area.

Methods

The Prescription Drug Misuse, Abuse and Dependence (R01DA020791) Study (Cottler, LB, PI) aimed to evaluate the test-retest reliability and validity of the Substance Abuse Module questions, criteria, and abuse of and dependence on each category of prescription drugs, and to understand contextual factors related to prescription drug misuse. All variables were based on self-report.

The sample for these analyses was limited to those with past year use of alcohol.

Age of respondents was collapsed into three groups: those 18 to 26, those 27 to 49, and those 50 to 65 years of age. Sex was self-reported male or female. Lifetime AUDs were assessed according to the DSM-IV criteria, collapsed into none versus abuse or dependence.

NMUPD was measured by adding the number of days of reported use out of 365 when not prescribed and number of days used differently than prescribed. Sedatives, stimulants and opiates were asked separately; for NMUPD answers were summed (theoretical range 0 – 2190).

Univariate and bivariate analyses were conducted.

Methods continued

We regressed Alcohol Dependence (Y/N), sex and age cohort on NMUPD SAS. Using the same predictors, we also regressed them on NMU of stimulants, opiates and sedatives, in separate models.

Variance in the range of days used by age cohort were large; robust sandwich estimation was necessary. Final regression models were calculated in STATA 10 with robust estimators.

Results

Descriptive Statistics (N=324)

Dependent Variables	*Mean*	*Std. Dev.*	*Range*
NMU Sed	59.09	115.93	0-730
NMU Stim	10.89	45.44	0-425
NMU Opi	97.99	134.04	0-730
NMU PD	167.49	215.12	0-1458

Independent Variables		*Freq.*	*Percent*
Had lifetime AUD		265	82%
Female		131	40%
Age Cohort	18 – 26	104	32%
	27 – 49	137	42%

AUDs had no relationship to any NMUPD (F=2.44, ns), controlling for age group and gender (Model F=3.23, *p*=0.022) in SAS. Age cohorts were significantly different for stimulants and opiates in separate models; alcohol and gender differences were not significant.

All models were rerun in STATA with robust standard errors estimators.

Regression of alcohol dependence, sex and age cohort on days of NMU of Opiates (N=323)

*Variable**	*Coef.*	*Robust SE*	*t*	*P>t*	*95% CI*
AUD	43.90	15.96	2.755	0.006	12.51,75.30
Female	25.40	15.52	1.64	0.103	-5.14,55.94
27-49 yr olds	66.05	14.87	4.44	0.000	36.79,95.31
50-65 yr olds	69.11	19.45	3.55	0.000	30.85,107.37

Overall model F(4,318)=7.38, p=0.000; R^2=0.08

*Reference groups: no lifetime AUD, male, 18 – 26 years old.

Regression of alcohol dependence , sex and age cohort on days of NMU of Stimulants (N=324)

Variable	*Coef.*	*Robust SE*	*t*	*P>t*	*95% CI*
AUD	10.31	4.65	2.21	0.027	1.15,19.46
Female	4.19	5.81	0.72	0.471	-7.24,15.62
27 -49 yr olds	-21.23	7.22	-2.94	0.004	-35.44,-7.02
50-65 yr olds	-26.43	6.66	-3.97	0.000	-39.54,-13.32

Overall model F(4,319)=4.48, p=0.0016; R^2=0.06

*Reference groups: no lifetime AUD, male, 18 – 26 years old.

Results continued

The model of NMUPD with robust estimators was not significant for AUD, but was significant for age.

Exploring the influence of age group by prescription drug type, we found that younger users were more likely to use opiates, and older users were more likely to use stimulants non-medically (Shown in Regression Result Tables).

Those with alcohol dependence were more likely to report NMU of opiates and stimulants, controlling for age and sex, after robust estimators were used to account for large differences in variation (See Tables).

The sedative model was not significant for any variable, including having a lifetime AUD (Results not shown).

Conclusions

Although we investigated the role of alcohol use in NMUPD, it proved to have no explanatory power when the prescription drug types were combined, unlike McCabe and associates findings (2006). When drugs were separated by class, using robust estimates of standard errors, having a lifetime AUD increased the likelihood of non-medical use of prescription opiates and stimulants. Nevertheless, models had little explanatory power.

Our findings support differences in prevalence of prescription drug misuse by age cohort when categories of drugs were separated. Non-medical prescription drug use was expected to vary by age cohort, with less use in older cohorts. But among non-medical users of prescription drugs, older adults are more likely to have opiates available. Similarly, the young adult cohort is more likely to have a prescription stimulant available to misuse, or to know a friend with a prescription. Availability may partially explain the differences by age cohort.

We found no differences in sedative misuse by age group, nor evidence for the anticipated role of AUDs.

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