RESEARCH SUMMARY
Date Compiled: May 2020

Key takeaways from included research:

- Half of surveyed U.S. 19- and 20-year-old alcohol users (a third of non-binge drinkers and almost three-quarters of binge drinkers) experienced negative consequences in the past year.

- Alcohol co-involvement for all opioid overdose deaths increased nonlinearly from 12.4% in 1999 to 14.7% in 2017.

- For both alcoholic drinks and energy-dense snacks, health warning labels depicting bowel cancer generated the highest levels of negative emotional arousal and lowest desire to consume the product, but were the least acceptable.

- Alcohol policies including monopolies, taxes and outlet density are associated with odds of some alcohol-related harms to others.

- The mean age at alcohol initiation was approximately 16 years in 2004. By 2017, the mean age had risen to about 17 years.

NEGATIVE ALCOHOL-RELATED CONSEQUENCES EXPERIENCED BY YOUNG ADULTS IN THE PAST 12 MONTHS: DIFFERENCES BY COLLEGE ATTENDANCE, LIVING SITUATION, BINGE DRINKING, AND SEX
June 2020

Abstract

Purpose: This study estimated the prevalence of negative consequences associated with alcohol use in a national sample of young adults one or two years after graduating from high school, focusing on differences by college attendance, living situation, binge drinking, and sex.

Methods: A subsample (N = 1068) of U.S. nationally representative Monitoring the Future study 12th grade students from 2006 to 2016 cohorts was followed-up at modal age 19 or 20 (in 2008–2017) and asked about negative consequences related to their own alcohol use during the past 12 months. **Differences in prevalence were estimated and multivariable models examined associations with college attendance, living situation, binge drinking, and sex.**

Results: Half of surveyed U.S. 19/20 year-old alcohol users (a third of non-binge drinkers and almost three-quarters of binge drinkers) experienced negative consequences in the past year. The likelihood of experiencing several consequence types was significantly associated with college attendance prior to controlling for living situation. In multivariable models controlling for living situation, unsafe driving due to drinking remained more likely for students attending 2-year colleges or vocational/technical schools than for 4-year college students or non-attenders. In general, negative consequence risk was elevated among young adults not living with parents (vs. those living with parents) and women (vs. men).

Conclusion: Negative consequences from alcohol use are prevalent among young adults and differ by college attendance, living situation, binge drinking, and sex. Students at 2-year/vocational/technical schools are at particular risk for unsafe driving, warranting specific research attention and targeted intervention.

Source: Patrick, M.E., Terry-McElrath, Y.M., Evans-Polce, R.J., & Schulenberg, J. (2020). Negative alcohol-related consequences experienced by young adults in the past 12 months: Differences by college attendance, living situation, binge drinking, and sex. *Addictive Behaviors*, Volume 105. https://www.sciencedirect.com/science/article/abs/pii/S0306460319309797

ALCOHOL OR BENZODIAZEPINE CO-INVOLVEMENT WITH OPIOID OVERDOSE DEATHS IN THE UNITED STATES, 1999-2017
April 2020

Abstract

Importance: The use of benzodiazepines or alcohol together with opioids increases overdose risk, but characterization of co-involvement by predominant opioid subtype is incomplete to date. Understanding the use of respiratory depressants in opioid overdose deaths (OODs) is important for prevention efforts and policy making.

Objective: To assess the prevalence and number of alcohol- or benzodiazepine-involved OODs by opioid subtypes in the United States from 1999 to 2017.

Design and setting: This repeated cross-sectional analysis used data from the Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research (WONDER) database of all opioid-involved poisoning deaths from January 1, 1999, to December 31, 2017, for the United

States. State-level binge drinking prevalence rates for 2015 to 2017 were obtained from the Behavior Risk Factor Surveillance System of the Centers for Disease Control and Prevention, and benzodiazepine prescribing rates for 2012 (most recent available data) were obtained from IMS Health, a commercial database. Data were analyzed from July 10, 2018, to May 16, 2019.

Main outcomes and measures: Prevalence of alcohol or benzodiazepine co-involvement for all OODs and by opioid subtype, nationally and by state.

Results: From 1999 to 2017, 399 230 poisoning deaths involved opioids, of which 263 601 (66.0%) were male, and 204 560 (51.2%) were aged 35 to 54 years. Alcohol co-involvement for all opioid overdose deaths increased nonlinearly from 12.4% in 1999 to 14.7% in 2017. By opioid subtype, deaths involving heroin and synthetic opioids (eg, fentanyl; excluding methadone) had the highest alcohol co-involvement at 15.5% and 14.9%, respectively, in 2017. Benzodiazepine co-involvement in all OODs increased nonlinearly from 8.7% in 1999 to 21.0% in 2017. Benzodiazepines were present in 33.1% of prescription OODs and 17.1% of synthetic OODs in 2017. State-level rates of binge drinking were significantly correlated with alcohol co-involvement in all OODs ($r = 0.34$; $P = .02$). State benzodiazepine prescribing rates were significantly correlated with benzodiazepine co-involvement in all OODs ($r = 0.57$; $P < .001$).

Conclusions and relevance: This study found that alcohol and benzodiazepine co-involvement in opioid-involved overdose deaths was common, varied by opioid subtype, and was associated with state-level binge drinking and benzodiazepine prescribing rates. These results may inform state policy initiatives in harm reduction and overdose prevention efforts.

Source: Tori, M.E., Larochelle, M.R., & Naimi, T.S. (2020). Alcohol or benzodiazepine Co-involvement with opioid overdose deaths in the United States, 1999-2017. *JAMA Network Open*. 2020;3(4):e202361.
https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764233

IMAGE-AND-TEXT HEALTH WARNING LABELS ON ALCOHOL AND FOOD: POTENTIAL EFFECTIVENESS AND ACCEPTABILITY
April 2020

Abstract

Background: Health warning labels (HWLs) using images and text to depict the negative health consequences of tobacco consumption are effective and acceptable for changing smoking-related outcomes. There is currently limited evidence concerning their potential use for reducing consumption of alcoholic drinks and energy-dense foods. The aim of this research was to describe the potential effectiveness and acceptability of image-and-text (also known as pictorial or graphic) HWLs applied to: *i.* alcoholic drinks and *ii.* energy-dense snack foods.

Methods: Two online studies were conducted using between-subjects designs with general population samples. Participants rated one of 21 image-and-text HWLs on alcoholic drinks ($n = 5528$), or one of 18 image-and-text HWLs on energy-dense snacks ($n = 4618$). HWLs comprised a graphic image with explanatory text, depicting, respectively, seven diseases linked to excess alcohol consumption, and six diseases linked to excess energy intake. Diseases included heart disease and various cancers. Outcomes were negative emotional arousal, desire to consume the labelled product, and acceptability of the label. Free-text comments relating to HWLs were content analysed.

Results: For both alcoholic drinks and energy-dense snacks, HWLs depicting bowel cancer generated the highest levels of negative emotional arousal and lowest desire to consume the product,

but were the least acceptable. Acceptability was generally low for HWLs applied to alcohol, with 3 of 21 rated as acceptable, and was generally high for snacks, with 13 of 18 rated as acceptable. The majority of free-text comments expressed negative reactions to HWLs on alcohol or energy-dense snacks.

Conclusions: Image-and-text health warning labels depicting bowel cancer showed greatest potential for reducing selection and consumption of alcoholic drinks and energy-dense snacks, although they were the least acceptable. Laboratory and field studies are needed to assess their impact on selection and consumption.

ASSOCIATION BETWEEN STATE-LEVEL ALCOHOL AVAILABILITY AND TAXATION POLICIES ON THE PREVALENCE OF ALCOHOL-RELATED HARMS TO PERSONS OTHER THAN THE DRINKER IN THE USA, 2000-2015
March 2020

Abstract

Introduction and aims: Alcohol-related harms to others (AHTO) are consequences of alcohol use borne by persons other than the drinker. This study assessed whether the odds of experiencing AHTO are associated with alcohol availability and taxation policies.

Design and methods: This study pooled data from four waves of the National Alcohol Survey (n = 20656 adults). We measured past-year AHTO exposure using three binary variables: physical (pushed/hit/assaulted or property damage by someone who had been drinking), family or financial (family/marital problems or financial harms by someone who had been drinking) and driving AHTO (riding in a vehicle with a drink-driver or being in a drink-driving crash). Policies included bar and off-premise alcohol outlet density (separately), alcohol retail hours, beer and spirits taxes (separately) and monopoly on retail/wholesale alcohol purchases.

Results: Monopolies were associated with 41.2% lower odds of physical harms [adjusted odds ratio (aOR) = 0.59, 95% confidence interval (CI) 0.45, 0.77, q < 0.001 correcting for multiple analyses], and a 10% increase in bar density was associated with a 1.2% increase in odds of driving-related harms ($e^{\ln(1.1) * \beta}$ =1.01, 95% CI 1.00, 1.02, q = 0.03). Among men, beer taxes were associated with lower odds of physical harms ($e^{\ln(1.1) * \beta}$ =0.93, 95% CI 0.88, 0.98 q = 0.03) and monopolies were associated with lower odds of physical (aOR = 0.45, 95% CI 0.35, 0.59, q < 0.001) and driving harms (aOR = 0.66, 95% CI 1.00, 1.02, q = 0.03).

Discussion and conclusions: Monopolies, taxes and outlet density are associated with odds of some AHTO. Future longitudinal research should test whether physical availability and taxation policies may be protective for bystanders as well as drinkers.

PATTERNS OF MEAN AGE AT DRUG USE INITIATION AMONG ADOLESCENTS AND EMERGING ADULTS, 2004-2017
March 2020

Extract
Use of alcohol, marijuana, and other drugs at an early age (e.g. before age 18 years) increases the likelihood of drug use disorder, which may disrupt brain development. A recent US report showed decreased incidence of some drugs, such as marijuana and tobacco, among people aged 12 to 17 years, while the contrary is true among those aged 18 to 25 years. This suggests an increase in the mean age at initiation of some drugs, although we have found no confirmation of this in recent literature. In this study, we examine recent trends in the mean age at initiation for 18 internationally regulated drugs (including alcohol and tobacco), focusing on the critical neurodevelopmental period (ages 12-21 years), using data from the National Survey on Drug Use and Health (NSDUH).
Our findings show that the mean age at initiation is increasing for most drugs under study. For example, the mean age at alcohol initiation was approximately 16 years in 2004. By 2017, the mean age had risen to about 17 years—a full year after the minimum age for an unrestricted driver's license in the United States. For alcohol and LSD, the stable estimates in recent years suggest that trends toward later ages at initiation may have already ended. Study limitations include self-reported data and recall bias.