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PREVENTING ALCOHOL-RELATED HARM

RESEARCH SUMMARY
Date Compiled: March 2022

Key takeaways from included research:

- A study was conducted in California to examine alcohol outlet density and drinking behaviors. Parents of young children were surveyed regarding their alcohol use patterns and locations of their daily activities which were then compared to alcohol availability in residential neighborhoods. Researchers found that alcohol use was related to the number of bars and restaurants near where parents shopped, worked, and their children went to school.
- Researchers reviewed databases and statistical reports on alcohol taxes and mean retail prices of alcoholic products in Europe. In doing this, they found alcohol is very affordable and alcohol taxes have been under-utilized as a public health measure in reducing alcohol consumption and the associated harms. The study showed that if minimum taxes were increased by 25%, this could prevent approximately 40,000 deaths in Europe. The researchers concluded that health-based measures, such as alcohol taxes, are needed to save lives.
- Various studies have been or are being conducted to examine how the COVID-19 Pandemic has impacted health, specifically as is relates to alcohol use and associated diseases. Researchers of this study examined the impacts of the pandemic on alcohol-related liver disease (ARLD) and found the number of ARLD hospital admissions were 50% higher in 2020 than in 2016-2019 in the Detroit metropolitan area.
- Fetal Alcohol Spectrum Disorders are primarily associated with the expecting mothers' alcohol use; however, research has shown that the father's alcohol consumption can also impact substance-related disorders. A Swedish study examined fathers' alcohol consumption, frequency of intoxication and drunkenness and found that all these measures were significantly and positively associated with the risk of substance-related disorders in offspring. This calls for universal prevention efforts targeting alcohol consumption in society to ensure positive outcomes for generations to come.
- A study conducted in the United Kingdom examined the patters of ambulance calls and needs as it relates to alcohol and other drug use during the COVID-19 lockdown. They found that the beginning of lockdown saw a drop in number of calls, whereas as the lockdown continued, these calls increased. This increase not only the individuals needing help, but the healthcare services as a whole.

EXAMINING HOW THE GEOGRAPHIC AVAILABILITY OF ALCOHOL WITHIN RESIDENTIAL NEIGHBORHOODS, ACTIVITY SPACES, AND DESTINATION NODES IS RELATED TO ALCOHOL USE BY PARENTS OF YOUNG CHILDREN

March 2022

Background: Alcohol outlet density and drinking behaviors have been assessed based on where people live, but exposure may differ based on where people spend time. We assessed the relationship between alcohol outlet density (using three measures of geographic availability), frequency of use, and continued volume of alcohol among parents. Parents are a unique population of drinkers where the risk for harm to others can be higher as they are caring for minor children.

Methods: We conducted a cross-sectional telephone and web-based survey of 1599 parents in 2015 across 30 cities in California. Participants provided information on drinking, residential addresses, and locations of daily activities. We created three measures of alcohol availability using residential neighborhoods, convex hull polygons, and destination nodes. Data were analyzed using zero-inflated negative binomial models.

Results: Density of bars in residential neighborhoods were related to more frequent drinking (b = 0.0139, 95% CI = 0.0016, 0.0261) and higher continued volume (b = 0.0295, 95% CI = 0.0067, 0.0522). Density of bars (b = 0.0070, 95% CI = 0.0019, 0.0121) and restaurants (b = 0.0018, 95% CI = 0.0003, 0.0033) in destination nodes were related to drinking a higher continued volume of alcohol. Higher off-premise outlet density was related to a lower continued volume (b = −0.0026, 95% CI = −0.0049, −0.0002).

Conclusions: Outlet densities in residential neighborhood and destination nodes are related to frequency of drinking and continued volume of alcohol. Future work should seek to determine why and how residential neighborhoods and nodes are related to alcohol use behaviors and if they differ for parents compared to other adults.

Source: Freisthler, B., & Wernekinck, U. (2022). Examining How the Geographic Availability of Alcohol within Residential Neighborhoods, Activity Spaces, and Destination Nodes is related to Alcohol Use by Parents of Young Children. *Drug and Alcohol Dependence*, 109352.

In the News: Jeff Brabmeier. (2022, March 1). How the density of bars, restaurants affects parents' alcohol use. *Ohio State News.* https://news.osu.edu/how-the-density-of-bars-restaurants-affects-parents-alcohol-use/

IMPACT OF INTRODUCING A MINIMUM ALCOHOL TAX SHARE IN RETAIL PRICES ON ALCOHOL-ATTRIBUTABLE MORTALITY IN THE WHO EUROPEAN REGION: A MODELLING STUDY

February 2022

Background: Alcohol use and its burden constitute one of the largest public health challenges in the WHO European Region. Raising alcohol taxes is a cost-effective "best buy" measure to reduce alcohol consumption, but its implementation remains uneven. This paper provides an overview of existing tax structures in 50 countries and subregions of the Region, estimates their proportions of tax on retail prices of beer, wine, and spirits, and quantifies the number of deaths that could be averted annually if these tax shares were raised to a minimum level.

Methods: Review of databases and statistical reports on taxes and mean retail prices of alcohol beverages in the Region. Affordability was calculated based on alcohol prices, adjusted for differences in purchasing power. Consumption changes and averted mortality were modelled assuming two scenarios. In Scenario 1, a minimum excise tax share level of 25% of the beverage-specific retail price was assumed for all countries. In Scenario 2, in addition to a minimum excise tax

share level of 15% it was assumed that per unit of ethanol minimal retail prices were the same irrespective of alcoholic beverages (equalisation). Sensitivity analyses were conducted for different price elasticities.

Findings: Alcohol is very affordable in the Region and alcohol taxes have clearly been under-utilized as a public health measure, constituting on average only 5·7%, 14·0% and 31·3% of the retail prices of wine, beer, and spirits, respectively. Tax shares were higher in the eastern part of the Region compared to the EU, where various countries did not have excise taxes on wine. Annually, the introduction of a minimum tax share of 25% (Scenario 1) could avert 40,033 (95% CI: 38,054-46,097) deaths in the WHO European Region (with 753,454,300 inhabitants older than 15 years of age). If a 15% tax share with equalisation were implemented (Scenario 2), 132,906 (95% CI: (124,691-151,674) deaths could be averted. All sensitivity analyses with different elasticities yielded outcomes close to those of the main analyses.

Interpretation: Similar to tobacco taxes, increasing alcohol taxes should be considered to be a health-based measure aimed at saving lives. Many countries have hesitated to apply higher taxes to alcohol, but the present results show a clear health benefit as a result of implementing a minimum tax share.

Source: Neufeld, M., Rovira, P., Ferreira-Borges, C., Kilian, C., Sassi, F., Veryga, A., & Rehm, J. (2022). Impact of introducing a minimum alcohol tax share in retail prices on alcohol-attributable mortality in the WHO European Region: A modelling study. *The Lancet Regional Health-Europe*, 100325.

ALCOHOL-RELATED HEPATITIS ADMISSIONS INCREASED 50% IN THE FIRST MONTHS OF THE COVID-19 PANDEMIC IN THE USA

January 2022

Abstract

Early reports suggest that alcohol misuse increased in 2020 as a result of the COVID-19 pandemic. Using retrospective data from Henry Ford Health System in Detroit MI—an area that experienced an early and severe COVID-19 outbreak—we investigated the impact of the pandemic on alcohol-related liver disease (ARLD) in the summer of 2020 compared with the same period in 2016-2019. Both the number of ARLD admissions and the proportion of total admissions represented by ARLD patients increased significantly in 2020 compared with previous years. The number of ARLD admissions as a proportion of all hospitalizations was 50% higher in 2020 than in 2016-2019 (0.31% vs 0.21%; P = .0013); by September 2020, the number of admissions was 66% higher than previous years. Despite racial and geographical disparities in direct and indirect COVID-related stressors across the Detroit metropolitan area, the demographic profile of ARLD patients did not change compared with previous years.

Source: Gonzalez, H. C., Zhou, Y., Nimri, F. M., Rupp, L. B., Trudeau, S., & Gordon, S. C. (2022). Alcohol-related hepatitis admissions increased 50% in the first months of the CoViD-19 pandemic in the US. *Liver International*.

In the News: Henry Ford Health System. (2022, February 9). Study finds 50% increase in hospitalizations for alcoholic hepatitis in early months of the pandemic. *News Medical.* https://www.news-medical.net/news/20220209/Study-finds-5025-increase-in-hospitalizations-for-alcoholic-hepatitis-in-early-months-of-the-pandemic.aspx

FATHERS' ALCOHOL CONSUMPTION AND RISK OF SUBSTANCE-RELATED DISORDERS IN OFFSPRING

March 2022

Background: Few studies have assessed how children are affected by parental alcohol consumption without clinically diagnosed alcohol problems, especially in relation to more long-term and severe consequences. The aim is to investigate how fathers' alcohol use is related to the risk for substance-related disorders in offspring.

Method: A prospective cohort study of 64 710 Swedish citizens whose fathers were conscripted for compulsory military training at ages 18–20 in 1969/70. Information on fathers' alcohol consumption, frequency of intoxication and apprehended for drunkenness, was collected during conscription. Offspring was followed for substance-related disorders from age 12 to end of follow up in 2009.

Results: All measures of fathers' alcohol use were significantly and positively associated with risk for substance-related disorders in offspring. The associations were to a large extent explained by other risk factors in childhood. In the fully adjusted model, those with fathers in the highest alcohol consumption quintile still had a 63% higher risk (HR=1.63 CI 1.26–2.12) of substance-related disorders compared to those whose fathers' reported abstinence. The highest risk was found among offspring to fathers with alcohol-related disorders or that had been apprehended for drunkenness, with a more than two-fold increased risk for substance-related disorders.

Conclusions: Despite the lower risk found among offspring to fathers with sub-clinical drinking when compared to those with alcohol-related disorders, the former group accounts for a much larger proportion of all cases of substance-related disorders in the population, prompting universal prevention efforts targeting the level of total alcohol consumption in society.

Source: Thor, S., Hemmingsson, T., Danielsson, A. K., & Landberg, J. (2022). Fathers' alcohol consumption and risk of substance-related disorders in offspring. *Drug and Alcohol Dependence*, 109354.

AMBULANCE ATTENDANCE FOR SUBSTANCE AND/OR ALCOHOL USE IN A PANDEMIC: INTERRUPTED TIME SERIES ANALYSIS OF INCIDENTS

March 2022

Introduction: The ambulance attendance for substance and/or alcohol use in a pandemic (ASAP) study explores incidents during the COVID-19 lockdown in the East Midlands region of the United Kingdom (23 March–4 July 2020).

Method: Retrospective cross-sectional count per day of ambulance attendances from the East Midlands Ambulance Service Trust. Ambulance attendances relating to alcohol or other drug use in the year prior, during lockdown and weeks following, were examined using interrupted time series analysis by patient demographics and geographical location.

Results: A total of 36 104 records were identified (53.7% male, 84.5% ethnicity classified as White, mean age 38.4 years). A significant drop in the number of attendances per day at the start of lockdown (−25.24, confidence interval − 38.16, −12.32) was observed, followed by a gradual increase during the ongoing lockdown period (0.36, confidence interval 0.23, 0.46). Similar patterns were found across genders, age groups 16–64 and urban/rural locations.

Discussion and Conclusion: The pattern of ambulance attendances for alcohol or other drug use changed during the COVID-19 lockdown period. Lockdown significantly affected the use of ambulances for incidents involving alcohol or other drug use, impacting on health-care services.

Further research into hazardous use of alcohol or other drugs during the lockdown periods is needed to inform policy, planning and public health initiatives.

Source: Mason, R., Roberts, A., Spaight, R., Shaw, D., Whitley, G. A., Hogue, T. E., Siriwardena, A. N., Rogers, J., & Law, G. R. (2022). Ambulance attendance for substance and/or alcohol use in a pandemic: Interrupted time series analysis of incidents. *Drug and alcohol review*, 10.1111/dar.13453. Advance online publication. https://doi.org/10.1111/dar.13453