



RESEARCH SUMMARY
Date Compiled: January 2022

Key takeaways from included research:

- A study reviewed sales and human mobility data to examine changes in alcohol sales and outlet visits during the COVID-19 pandemic. They found major increases in sales of wine and distilled spirits since March 2020, whereas beer sales decreased. Visits to off-premise outlets, like liquor stores, also increased while their on-premise counterpart visits, like to restaurants and bars, decreased.
- Another group of researchers looked at the effects of increased alcohol consumption on alcohol-related liver disease (ALD) and mortality during the COVID-19 pandemic. They found that even a short-term increase in alcohol consumption can substantially increase long-term ADL-related morbidity and mortality. This result calls for individuals and policymakers to make scientifically informed decisions mitigate these negative impacts.
- Previous research demonstrated a positive association between alcohol consumption and epilepsy, however several more recent studies have come out therefore an updated meta-analysis was done. Researchers found that cohort studies did not reveal a significant association between alcohol consumption and epilepsy, however further studies of the general population are needed to assert a definitive relationship and potential threshold.
- Researchers looked at housing status and social determinant of health to be sued for clinicians and policymakers to design and implement interventions to emergency department (ED) patients with unhealthy alcohol use (UAU). They found that UAU is common among ED patients, however it is not clinically recognized, therefore many patients may have higher rates of homelessness along with substance use. Additional studies should consider effective strategies for UAU patients in the ED.

HUMAN MOBILITY DATA AND MACHINE LEARNING REVEAL GEOGRAPHIC DIFFERENCES IN ALCOHOL SALES AND ALCOHOL OUTLET VISITS ACROSS U.S. STATES DURING COVID-19 December 2021

Abstract

As many U.S. states implemented stay-at-home orders beginning in March 2020, anecdotes reported a surge in alcohol sales, raising concerns about increased alcohol use and associated ills. The surveillance report from the National Institute on Alcohol Abuse and Alcoholism provides monthly U.S. alcohol sales data from a subset of states, allowing an investigation of this potential increase in alcohol use. Meanwhile, anonymized human mobility data released by companies such as SafeGraph enables an examination of the visiting behavior of people to various alcohol outlets such as bars and liquor stores. This study examines changes to alcohol sales and alcohol outlet visits during COVID-19 and their geographic differences across states. We find major increases in the sales of spirits and wine since March 2020, while the sales of beer decreased. We also find moderate increases in people's visits to liquor stores, while their visits to bars and pubs substantially decreased. Noticing a significant correlation between alcohol sales and outlet visits, we use machine learning models to examine their relationship and find evidence in some states for likely panic buying of spirits and wine. Large geographic differences exist across states, with both major increases and decreases in alcohol sales and alcohol outlet visits.

Source: Hu, Y., Quigley, B. M., & Taylor, D. (2021). Human mobility data and machine learning reveal geographic differences in alcohol sales and alcohol outlet visits across US states during COVID-19. *PloS one*, 16(12), e0255757.

In the News: Sandee LaMotte. (2021, December 15). We really did buy more alcohol during the early pandemic, study finds. *CNN Health*. <https://www.cnn.com/2021/12/15/health/alcohol-sales-covid-study-wellness/index.html>

EFFECT OF INCREASED ALCOHOL CONSUMPTION DURING COVID-19 PANDEMIC ON ALCOHOL-RELATED LIVER DISEASE: A MODELING STUDY December 2021

Abstract

Background and Aims: Alcohol consumption increased during the coronavirus disease-2019 (COVID-19) pandemic in 2020 in the U.S. We projected the effect of increased alcohol consumption on alcohol-related liver disease (ALD) and mortality.

Approach and Results: We extended a previously validated microsimulation model that estimated the short- and long-term effect of increased drinking during the COVID-19 pandemic in individuals in the US born between 1920-2012. We modeled short- and long-term outcomes of current drinking patterns during COVID-19 (status quo) using survey data of changes in alcohol consumption in a nationally representative sample between February and November 2020. We compared these outcomes with a counter-factual scenario wherein no COVID-19 occurs and drinking patterns do not change.

One-year increase in alcohol consumption during the COVID-19 pandemic is estimated to result in 8,000 [95% UI 7,500-8,600] additional ALD-related deaths, 18,700 [95% UI 17,600-19,900] cases of decompensated cirrhosis, and 1,000 [95% UI 1,000-1,100] cases of HCC, and 8.9 million disability-adjusted life-years between 2020 and 2040. Between 2020 and 2023, alcohol consumption changes due to COVID-19 will lead to 100 [100-200] additional deaths and 2,800 [2,700-2,900] additional

decompensated cirrhosis cases. A sustained increase in alcohol consumption for more than 1 year could result in additional morbidity and mortality.

Conclusions: A short-term increase in alcohol consumption during the COVID-19 pandemic can substantially increase long-term ALD-related morbidity and mortality. Our findings highlight the need for individuals and policymakers to make informed decisions to mitigate the impact of high-risk alcohol drinking in the US.

Source: Julien, J., Ayer, T., Tapper, E. B., Barbosa, C., Dowd, W., & Chhatwal, J. (2021). Effect of Increased Alcohol Consumption During COVID-19 Pandemic on Alcohol-related Liver Disease: A Modelling Study. *Journal of Hepatology*. <https://doi.org/10.1002/hep.32272>

In the News: Tracy Hampton. (2022, January 4). Study holds warning on pandemic drinking. *The Harvard Gazette*. <https://news.harvard.edu/gazette/story/2022/01/covid-related-drinking-linked-to-rise-in-liver-disease/>

ALCOHOL CONSUMPTION ON UNPROVOKED SEIZURE AND EPILEPSY: AN UPDATED META-ANALYSIS

January 2022

Abstract

Background: Epilepsy is one of the most common neurological disorders, affecting approximately 50 million people worldwide. Although a positive association between alcohol consumption and epilepsy has been demonstrated in previous meta-analyses of case-control studies, the results of several recently published large cohort studies are contradictory. Therefore, we conducted an updated meta-analysis that included more recent data to clarify the association between alcohol consumption and epilepsy.

Methods: The search was performed on 25 January 2021 using the Embase and MEDLINE databases. Cohort or case-control studies were eligible for inclusion in this study. We used restricted cubic spline analysis to perform a dose-response meta-analysis.

Results: A total of eight studies, including three cohort and five case-control studies, were included in our meta-analysis. The pooled risk of epilepsy was 1.70 (1.16–2.49) in alcohol users compared to non-drinkers. Subgroup analysis of 50 g units showed that the epilepsy risk increased as alcohol intake increased. The pooled risk of cohort studies was 1.00 (0.65–1.54), and the pooled risk of case-control studies was 2.61 (1.29–5.29). According to the dose-response analysis, the regression coefficient was 1.009 (1.004–1.014), indicating a significant positive dose-response relationship.

Conclusion: Unlike the case-control studies, the cohort studies did not reveal a significant association between alcohol consumption and epilepsy. Further large cohort studies for the general population are required to assert a definite causal relationship between alcohol consumption and epilepsy and to identify a potential threshold.

Source: Kyoung Nam Woo, Kihun Kim, Dai Sik Ko, Hyun-Woo Kim, Yun Hak Kim. (2022). Alcohol consumption on unprovoked seizure and epilepsy: An updated meta-analysis. *Drug and Alcohol Dependence*, 109305, ISSN 0376-8716, <https://doi.org/10.1016/j.drugalcdep.2022.109305>

THE SOCIAL CONTEXT OF UNHEALTHY ALCOHOL USE AMONG EMERGENCY DEPARTMENT PATIENTS

January 2022

Abstract

Background: Housing status and additional social determinants of health are important data for clinicians and policy makers to design and implement effective interventions for emergency department (ED) patients with unhealthy alcohol use (UAU).

Methods: We surveyed patients in an urban, safety-net ED from June to August 2018. UAU was assessed by a validated single-item screening question endorsed by the National Institute on Alcohol Abuse and Alcoholism. Housing status was assessed using items validated for housing stability.

Results: Seven hundred fifty-eight patients completed the survey (60% response rate), and 296 (39%; 95% confidence interval: 36%–43%) reported UAU. Patients with and without UAU had the same rates of ED visits (median 2, interquartile range: 1–4; $P = 0.69$) and hospitalizations (median 0, interquartile range: 0–0; $P = 0.31$) in the 12 months before index visit. Patients with UAU were more likely to lack stable housing compared to patients without UAU (69% vs 59%; $P = 0.006$). Illicit drug use and prescription drug misuse was more common in patients with UAU compared to those without UAU (29% vs 14%, $P < 0.001$; and 18% vs 10%; $P < 0.001$, respectively). Only 60 (20.3%) of the 296 patients with UAU had a documented diagnosis of UAU in the medical record.

Conclusions: UAU is common in the general ED patient population and usually not clinically recognized. Patients with UAU have high rates of homelessness and co-occurring substance use. Future studies should consider strategies to incorporate social determinants of health and harm reduction treatments into ED-based interventions for UAU.

Source: Anderson, Erik S. MD; Fraimow-Wong, Leah BA; Blake, Rachel MS; Batiste, Kierra BS; Liang, Amy MD; DeFries, Triveni MD; Herring, Andrew A. MD; Alter, Harrison MD, MS. (2022). The Social Context of Unhealthy Alcohol Use Among Emergency Department Patients. *Journal of Addiction Medicine*. doi: 10.1097/ADM.0000000000000953