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SYNOPSIS

Review of "The Impacts of Policies Controlling the Spatial Availability of Take-Away Alcohol on Consumption and Harms: A Systematic Narrative Review"

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One-Minute Summary

- Alcohol is a Group 1 Carcinogen that is responsible for approximately 4% of deaths globally. It is a contributory cause of at least seven types of cancers, chronic liver disease, cardiovascular and neuropsychiatric pathologies, and acute health harms including alcohol toxicity and injuries. Broader social harms attributable to alcohol include violence, crime, and economic burdens due to healthcare costs and lost productivity. Policies regulating the spatial availability of take-away or off-premises alcohol are of interest to reduce alcohol use and alcohol-related harms.
- The authors of this article conducted a systematic review, which led to the narrative synthesis of 20 studies that examined how the spatial availability of take-away alcohol affected outcomes including alcohol consumption, alcohol sales, crime, harms to others, hospitalizations and emergency department visits. Types of take-away alcohol spatial availability policies included: policies on alcohol sales in retail outlets, privatization of alcohol sales, changes in the strength of available alcohol and local malt liquor restrictions.
- The majority of studies examined various policies on alcohol sales in take-away retail outlets and the evidence was mixed.
    - Jurisdiction-level policies: six studies examined impacts of differing policies for take-away alcohol sales at state, province or national levels. Of four studies conducted in the United States (US), two specifically assessed outcomes among women and found alcohol availability in gas stations to be associated with increased alcohol consumption, alcohol-attributable harms, alcohol use in pregnancy and infant morbidity. Two other US studies assessed alcohol sales permitted in grocery stores and found these policies were not consistently associated with any measured outcomes (i.e., alcohol consumption, dependence indicators, or infant health issues). One Canadian study compared provincial policies on take-away alcohol (i.e., levels of government monopoly, hybrid, and fully private systems), and found more regulated versus less regulated systems did not impact the outcomes of crime, traffic fatalities and injuries, or per capita alcohol sales. Finally, one international study found no significant associations between alcohol outlet density scores and self-reported lifetime abstinence rates.

- Expansion of retail alcohol sales: five studies assessed policies that permitted the expansion of alcohol sales to more types of take-away outlets. Two US studies found no significant changes in measured outcomes (i.e., crime and varied alcohol consumptions outcomes). Three Canadian studies showed inconsistent results, two found no changes in alcohol consumption outcomes and one found a positive association between additional take-away alcohol outlets and increased emergency department visits at the neighbourhood level.

- Two studies examined privatization of the retail distribution of alcohol, specifically the privatization of retail alcohol sales in the state of Washington, which increased the number of take-away alcohol outlets. One study provided evidence of increased alcohol outlets being associated with increased crime rates, and overall evidence did not support associations with hospitalization outcomes.
- Three studies examined the impact of changes in available alcohol strength, specifically increasing or decreasing the allowable alcohol strength sold in grocery stores. Evidence showed availability of stronger beverages did not affect alcohol purchases or adolescent alcohol consumption. However, banning take-away alcohol with ethanol content greater than 2.7% saw reductions in alcohol-related emergency department visits, hospitalizations from injuries, and domestic violence.
- Malt liquor restrictions limit or ban the sale of beers with relatively high alcohol content (i.e., 6% to 9%). Four studies conducted at local levels in the US suggested reductions in select crime outcomes, however this was mixed with evidence of no change, insignificant decreases and increases in other crime outcomes. Given the malt liquor restrictions in these studies were implemented in response to alcohol-related concerns in the specific communities, results suggest restrictions on a single alcohol type at limited outlets are unlikely to be effective in areas already affected by alcohol-related harms.
- Overall, this systematic review showed evidence on the impacts of spatial availability of take-away alcohol on consumption and alcohol-related harms is largely mixed. The body of evidence suggested there are many context-specific factors, such as outlet type, geography, co-occurring alcohol policies and interventions in the study settings that can affect the success of spatial availability policies. Exploration of long-term impacts of policies in various contexts and among at-risk populations was suggested for future research.

Additional Information

- Natural experimental study designs provide a unique opportunity to discern the health impact of policies in situations where randomized controlled trials are not feasible or ethical. This systematic review built upon a previous systematic review on the same topic by Sherk et al., which also prioritized the inclusion of natural experiments to enhance understanding of potential causality using a tiered system to categorize study designs.[1] Tier 1 included natural experiments with a controlled pre/post design, Tier 2 included natural experiments with an uncontrolled pre/post design, and Tier 3 encompassed all other studies including cross-sectional and cohort analyses. The current review differs from the Sherk et al. review by examining more spatial availability exposures (i.e., outlet type, alcohol strength) and outcomes (i.e., alcohol consumption, alcohol-related harms).
- Quality appraisals of each included study were conducted using JBI critical appraisal tools matched to the design of each included study, results of which are reported in table and visual formats. These appraisals identified several common limitations across the body of evidence that can increase the risk of bias. Common limitations included potential confounding variables that could influence outcomes of interest (e.g., co-occurring policies or interventions that impact alcohol pricing, advertising, or temporal availability), limitations in statistical analyses, and potential unreliability of outcomes measures (e.g., self-reported alcohol consumption). Risk of bias considerations were also embedded in the narrative reporting of results and discussion.

- Suggested areas for future research included: further quasi-experimental studies to better assess the potential for mitigating harm in diverse populations, including equity-deserving groups, further investigation into how various retail types affect population subgroups and high-risk drinking behaviours, and exploration of long-term impacts of policies on alcohol use and harms.

PHO Reviewer's Comments

- As highlighted by the systematic review authors, there was significant variability in study designs, populations, policy interventions, outlet types and geographical contexts, which make generalization of the results challenging. However, this systematic review demonstrated that varying alcohol policies likely impact different measurements of alcohol-related harm that are context-specific. This highlights the need to explore the effect of different subtypes of alcohol outlets and targeted polices on specific outcomes and demographic subgroups.
- Numerous investigations focused on alcohol use and alcohol-attributable harms, but no studies addressed alcohol-attributable mortality. Alcohol is a contributor to various clinical diseases, such as liver disease, cardiovascular conditions and cancers. This indicates a current gap in natural experiments on spatial availability of alcohol that investigate these longer-term outcomes.
- As suggested by the malt liquor restriction results and given the widespread availability of alcohol in North America, a single outlet intervention on one beverage type may not yield measurable impacts. As with many public health issues that require multi-pronged approaches, the combination of multiple synergistic interventions and mitigation measures may be expected to have greater success in addressing the potential population health outcomes of more lenient alcohol policies.[2]
- This synopsis should be considered with an understanding of the current alcohol policy landscape in Ontario. Recently, Ontario expanded sales of take-away, ready to drink alcoholic beverages and large beer pack sizes to big box and convenience stores.[3] These outlets include stores attached to gas stations, an outlet type that was linked to several alcohol-related harms particularly in women in this systematic review. Recent media articles indicated that fortified wines (i.e., higher average alcohol content than regular wine) may soon be available for sale in these outlets as well.[4,5] Overall, these policy changes have been rolled out sooner than initially planned,[6] and have resulted in rapidly increased spatial availability and the convenience to purchase larger quantities and higher strengths of alcohol. This context presents an opportunity to evaluate the impacts of widespread expansion policies. The gaps in evidence noted by this systematic review may provide potential directions for evaluations, including efforts to better understand impacts by outlet type, and within key population subgroups such as youth and/or women.
- Canadian Alcohol Policy Evaluation (CAPE) is an ongoing research project which provides assessments of the implementation (or lack thereof) of 11 evidence-informed alcohol policy domains.[2] Domains are weighted based on effectiveness for reducing alcohol harms (directly or indirectly), and the proportion of the population affected by the policy. The physical availability domain encompasses spatial and temporal availability of alcohol, including the types and density of outlets permitted to sell alcohol. Of the 11 CAPE domains, physical availability is weighted the second highest, outweighed only by pricing and taxation policies.

- Given Ontario is expanding rather that restricting physical availability, there is an opportunity to consider other policy domains to mitigate alcohol-related harms. While the 11 domains are presented by CAPE for the provincial level, they may be considered as a guiding framework, alongside other reputable organizations' recommendations (e.g., World Health Organization, Canadian Centre on Substance Abuse and Addiction, US Surgeon General), for public health units and municipalities to address alcohol and its impacts on health and social outcomes.[1,7-10] CAPE outlines detailed descriptions of the 11 policy domains,[2] select examples are provided below:
    - Health and safety messaging: advocate for alcohol container labelling, an approach that has recently been advised by the World Health Organization, the US Surgeon General and Canada's Guidance on Alcohol and Health;[7,10-13] enhance education on the 2023 update to Canada's Guidance on Alcohol and Health for the general public and/or at-risk population subgroups;[7] use media/social media for education campaigns.
    - Alcohol strategy: at the federal and provincial level, specific alcohol strategies or action plans can help prioritize and coordinate alcohol initiatives. Applying this concept to the regional level may entail local Boards of Health developing and prioritizing specific and measurable goals related to alcohol and health. In other words, efforts to make space for the topic of alcohol and related harms on the local policy agenda.
    - Monitoring and reporting: routine and comprehensive monitoring of alcohol-related harms in relation to implementation of policies and/or related interventions. When possible, monitoring should incorporate measurements across population subgroups. Public reporting of health and social harms associated with alcohol can help raise awareness and garner support for evidence-based alcohol policies. A recent example of public advocacy and raising awareness is a coalition letter by multiple Ontario health and public health organizations.[14]
    - Minimum legal age; liquor law enforcement: examples include robust enforcement of proof of age across all alcohol outlets, inspection programs, alcohol sale and service training, and systematic recording and public reporting of alcohol sales offence details to keep outlets accountable. An important caveat for these domains: the success of law enforcement as a component of reducing alcohol-related crime and violence is contingent on meaningful stakeholder engagement and community support.

Critical Appraisal

A critical appraisal of this systematic review was conducted using the A MeaSurement Tool to Assess Systematic Reviews (AMSTAR 2), which is comprised of 16 questions.[15] AMSTAR 2 recommends against combining individual item answers to create an overall score for a systematic review. Users are recommended to consider the potential impact of an inadequate rating for each item. The full critical appraisal tool with all responses is available on request.

For this systematic review, the majority of AMSTAR 2 questions were answered with "Yes", denoting a minimal risk of bias and a review with overall strong methodology. Key strengths included detailed description of included studies, thorough assessment of the quality of evidence using critical appraisal tools, and clear reporting of methods for each process step (search strategy, screening, extraction, risk of bias assessment, and synthesis). One risk of bias item that did not meet AMSTAR 2 criteria was the reporting and justification of excluded studies. The risk of not fully accounting for excluded studies is they remain invisible and the impact of their exclusion from the SR is unknown.[15]

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