



Rapid Review: What is the effect of the COVID-19 pandemic on alcohol use and alcohol-related harms?

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Executive Summary

Background

With the introduction of a near-global lockdown to prevent and control the spread of COVID-19 came the potential for negative effects due to isolation, stress and boredom. Individuals affected by COVID-19 restrictions may engage in potentially harmful coping strategies, such as increased intake of alcohol. Evidence on the effect of the pandemic on alcohol intake and alcohol-related harms will help inform the public health response to minimize adverse outcomes.

This rapid review was produced to support public health decision making related to the coronavirus disease 2019 (COVID-19) pandemic. This review seeks to identify, appraise and summarize emerging research evidence to support evidence-informed decision making.

This rapid review includes evidence available up to June 16, 2020 to answer the question: What is the effect of the COVID-19 pandemic on alcohol use and alcohol-related harms?

Key Points

Evidence on the effect of the COVID-19 pandemic on alcohol use and related harms is currently limited, consisting mainly of survey data. Epidemiological data is not yet available in Canada for the pandemic period. While a few reports describe efforts to implement harm reduction strategies during the pandemic, data on outcomes is not currently available.

Evidence related to the effect of the COVID-19 pandemic on alcohol use and related harms is summarized under three sub-questions:

- 1. Based on research evidence, what is the effect of the COVID-19 pandemic on alcohol use and alcohol-related harms?
 - Among the global population, trends in changes to alcohol intake during the
 pandemic are unclear. Several studies reported that more people have increased
 their alcohol intake; a similar number of studies reported that more people have
 decreased their intake. Findings are inconsistent and quality of evidence is low.
 - Of note, studies conducted in Canada reported that more people have increased their alcohol intake during the pandemic than decreased, particularly in younger people aged 18–34. Findings are consistent and quality of evidence is low.
 - Overall, studies reported that the largest proportion of people have not changed their alcohol intake. Findings are consistent and quality of evidence is low.
 - Most studies did not report on alcohol-related harms, such as injuries or hospitalizations. A survey conducted in Canada found that 99% of participants had not experienced injuries due to alcohol during the pandemic. Findings are consistent and quality of evidence is low.

- 2. How have rates of alcohol-related harms in Canada been affected during the COVID-19 pandemic?
 - It was not possible to compare the rates of alcohol-related harms in Canada during the pandemic to similar timeframes in prior years since relevant population-level data is not yet available for the pandemic period.
- 3. What strategies have been used to mitigate alcohol-related harms during the COVID-19 pandemic?
 - Few studies provided any evidence regarding harm reduction strategies. A survey conducted in Canada found only a small proportion of people who drink alcohol sought resources to reduce their alcohol intake (2%). Quality of evidence is moderate.

Overview of Evidence and Knowledge Gaps

- At the time this search was completed, there were no syntheses yet available.
- Most research evidence consisted of cross-sectional surveys completed during the COVID-19 pandemic and are subject to recall bias.
- Cross-sectional studies distributed surveys through social media platforms or paid survey companies that provide a small monetary reimbursement to participants.
- The clinical significance of changes in alcohol consumption during the pandemic are unclear. Most studies did not report whether changes in alcohol consumption corresponded to shifts from low-risk drinking to high-risk or disordered alcohol use.
- Data regarding alcohol-related harms at the population level are not yet available in Canada according to federal and provincial/territorial public health surveillance organizations.
- There is little evidence regarding the availability of harm reduction or treatment services for alcohol use disorder during the COVID-19 pandemic.

Methods

Research Questions

What is the effect of the COVID-19 pandemic on alcohol use and alcohol-related harms?

- 1) Based on research evidence, what is the effect of the COVID-19 pandemic on alcohol use and alcohol-related harms?
- 2) How have rates of alcohol-related harms in Canada been affected during the COVID-19 pandemic?
- 3) What strategies have been used to mitigate alcohol-related harms during the COVID-19 pandemic?

Search

On June 15 and 16, 2020, the following databases were searched:

- Pubmed's curated COVID-19 literature hub: LitCovid
- Trip Medical Database
- World Health Organization's Global literature on coronavirus disease
- Joanna Briggs Institute COVID-19 Special Collection
- COVID-19 Evidence Alerts from McMaster PLUS™
- Public Health +
- COVID-19 Living Overview of the Evidence (L·OVE)
- Cochrane Rapid Reviews Question Bank
- Prospero Registry of Systematic Reviews
- NCCMT COVID-19 Rapid Evidence Reviews
- MedRxiv Preprint server
- Canadian Institute for Health Information (CIHI) Your Health System
- ICES
- The Centre for Addiction & Mental Health
- The Canadian Centre on Substance Use and Addiction
- British Columbia Centre for Disease Control (BCCDC)
- Public Health Ontario (PHO)
- Institut national de santé publique Québec
- Government of Alberta Open Government Program

A copy of the search strategy is available on request.

Study Selection Criteria

The search results were first screened for recent guidelines and syntheses. Single studies were included if no syntheses were available, or if single studies were published after the search was conducted in the included syntheses. English-language, peer-reviewed sources and sources published ahead of print before peer review were included. Surveillance data were included as relevant to the question. When available, findings from syntheses and clinical practice guidelines are presented first, as these take into account the available body of evidence and, therefore, can be applied broadly to populations and settings.

Inclusion Criteria	Exclusion Criteria
General population	
COVID-19 pandemic	
Pre-pandemic	
Alcohol-related overdoses and death;	
any data on increased or new usage, if	
	General population COVID-19 pandemic Pre-pandemic Alcohol-related overdoses and death;

	Inclusion Criteria	Exclusion Criteria
Population	People who use alcohol	
Intervention	Any intervention implemented during	
	COVID-19 pandemic	
Comparisons	Pre-pandemic interventions	
Outcomes	Alcohol-related overdoses and death;	
	any data on increased or new usage, if	
	available;	
	adherence to interventions	

Data Extraction and Synthesis

Data relevant to the research question, such as study design, setting, location, population characteristics, interventions or exposure and outcomes, were extracted when reported. We synthesized the results narratively due to the variation in methodology and outcomes for the included studies.

We evaluated the quality of included evidence using critical appraisal tools as indicated by the study design below. Quality assessment was completed by one reviewer and verified by a second reviewer. Conflicts were resolved through discussion. For some of the included evidence, a suitable quality appraisal tool was not found or the review team did not have the expertise to assess methodological quality. Studies for which quality appraisal has not been conducted are noted within the data tables.

Study Design	Critical Appraisal Tool
Cohort	Critical Appraisal Skills Programme (CASP) Cohort Study Checklist
Cross-sectional	Joanna Briggs Institute (JBI) Checklist for Analytical Cross Sectional
	<u>Studies</u>

Completed quality assessments for each included study are available on request.

Findings

Quality of Evidence

This document includes one in-progress synthesis and 13 single studies for a total of 14 publications addressing the three distinct questions. The quality of the evidence included in this review is as follows:

		Total	Quality of Evidence
Syntheses	Completed	0	
	In Progress	1	
Single Studies	Completed	13	3 Low
			9 Moderate
			1 High

Warning

Given the need to make emerging COVID-19 evidence quickly available, many emerging studies have not been peer reviewed. As such, we advise caution when using and interpreting the evidence included in this rapid review. We have provided a summary of the quality of the evidence as low, moderate or high to support the process of decision making. Where possible, make decisions using the highest quality evidence available.

Table 1: In-progress Syntheses

Title	Anticipated Release Date	Setting	Description of Document
Salanti, G., Papakonstantinou, T., Cipriani, A., Furukawa, T., & Leucht, S. (2020). Living systematic review on the effects of the COVID-19 pandemic on the general populations' mental health, alcohol/substance abuse and violence. <i>PROSPERO</i> , CRD42020180049.	Oct 1, 2022	Not specified	The aims of this living systematic review are to report on: a) the prevalence of mental health issues, including alcohol/substance abuse; and b) any change in mental health symptoms as related to the COVID-19 epidemic/pandemic. The population addressed by this systematic review includes the general population regardless of age (inclusive of children, adolescents and the elderly). Cohort studies, cross-sectional studies, surveys and
			prevalence studies will be included in the systematic review.

Table 2: Single Studies

Reference	Date Released	Study Design	Sample	Setting	Summary of Findings	Quality Rating:
Bhutani, S., Cooper, J.A., & Vandellen, M.R. (2020). Self-reported changes in energy balance behaviors during COVID-19 related home confinement: A cross-sectional study. Preprint.	Jun 12, 2020	Cross- sectional	n=1609	United States	Compared to pre-pandemic alcohol intake, a survey of adults in the United States aged 18–75 found: • 19.05% reported an increase in alcohol intake • 24.7% reported a decrease in alcohol intake Changes in alcohol intake were similar among men and women, with both sexes more likely to report decreases in alcohol intake. Participants classified as underweight according to body mass index (BMI) were more likely to report purchasing more alcoholic beverages compared to those classified as normal weight, overweight or obese.	Moderate
Stanton, R., To, Q.G., Khalesi, S., Williams, S.L., Alley, S.J., Thwaite, T.L., Fenning, A.S., & Vandelanotte, C. (2020). Depression, anxiety and stress during COVID-19: Associations with changes in physical activity, sleep, tobacco and alcohol use in Australian adults. International Journal of Environmental Research and Public Health, 17(11), 4065.	Jun 7, 2020	Cross- sectional	n=1491	Australia	Compared to pre-pandemic alcohol intake, a survey of adults in Australia aged 18 and over found: • 26.6% reported an increase in alcohol intake • 18.1% reported a decrease in alcohol intake • 55.3% reported no change in alcohol intake Increased alcohol intake was associated with increased depression (adjusted OR 1.07, 95%Cl 1.04, 1.10), anxiety (adjusted OR 1.08, 95%Cl 1.04, 1.12) and stress symptoms (adjusted OR 1.10, 95%Cl 1.07, 1.13).	Moderate
Deschasaux-Tanguy, M., Druesne- Pecollo, N., Esseddik, Y., Szabo de Edelenyi, F., Alles, B., Andreeva, V.A., Baudry, J., Charreire, H., Deschamps, V., Egnell, M., Fezeu, L.K., Galan, P., Julia, C., Kesse-Guyot, E., Latino-	Jun 5, 2020	Cohort	n=37,252	France	Compared to pre-pandemic alcohol intake, data from a cohort of adults in France found: • 25% reported an increase in alcohol intake • 75% reported a decrease in alcohol intake The overall mean alcohol intake prior to the	High

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Martel, P., Oppert, J.M., Peneau, S., Verdot, C., Hercberg, S., & Touvier, M. (2020). Diet and physical activity during the COVID-19 lockdown period (March-May 2020): Results from the French NutriNet-Santé cohort study. Preprint.					COVID-19 lockdown was 10.51 g/day compared to an average of 9.25 g/day during lockdown. Limitations include that the cohort may not be representative of the general population in France given its higher socioeconomic status and that it was made up predominantly of women.	
Håkansson, A. (2020). Changes in gambling behavior during the COVID-19 pandemic—A web survey study in Sweden. International Journal of Environmental Research and Public Health, 17(11), 4013.	Jun 5, 2020	Cross- sectional	n=2016	Sweden	Compared to pre-pandemic alcohol intake, a survey of adults in Sweden aged 18 and over found: • 8% reported an increase in alcohol intake • 10% reported a decrease in alcohol intake • 65% reported no change in alcohol intake	Moderate
Sun, Y., Li, Y., Bao, Y., Meng, S., Sun, Y., Schumann, G., Kosten, T., Strang, J., Lu, L., & Shi, J. (2020). Brief Report: Increased addictive internet and substance use behavior during the COVID-19 pandemic in China. The American Journal on Addictions. Epub ahead of print.	Jun 4, 2020	Cross- sectional	n=6416	China	Compared to pre-pandemic alcohol intake, a survey of adults in China found that of participants who identified as drinking alcohol regularly: • 32% reported an increase in alcohol intake There was a marginal increase in the overall rate of individuals reporting any alcohol intake from before the COVID-19 pandemic (31.3%) compared to during the pandemic (32.7%). The significance of this change was not reported.	Low
Sidor, A., & Rzymski, P. (2020). <u>Dietary choices and habits during COVID-19</u> <u>lockdown: Experience from Poland</u> . Nutrients, 12(6), 1657.	Jun 3, 2020	Cross- sectional	n=1097	Poland	Compared to pre-pandemic alcohol intake, a survey of adults in Poland aged 18 and over found: • 14.6% reported an increase in alcohol intake • 77% reported no increase in alcohol intake • 8.3% reported that they were unsure if their alcohol intake had changed There were no associations between frequency of alcohol consumption and other variables, including age, BMI, gender, education, occupational status or place of	Moderate

					living.	
					Increases in alcohol intake during quarantine were more frequently reported among participants self-identifying as "addicted to alcohol" compared to those self-identifying as "not addicted." The strength of this association is limited by the small sample of participants self-identifying as "addicted to alcohol" (n=14).	
Ahmed, M.Z., Ahmed, O., Aibao, Z., Hanbin, S., Siyu, L., & Ahmad, A. (2020). Epidemic of COVID-19 in China and associated psychological problems. Asian Journal of Psychiatry, 51, 102092.	Jun 2020	Cross- sectional	n=1074	China	Among participants from China aged 14–68, the prevalence of disordered alcohol use as defined by the validated Alcohol Use Disorder Identification Test (AUDIT) during the COVID-19 pandemic were reported as follows: • hazardous drinking (29.1%) • harmful drinking (9.5%) • alcohol dependent (1.6%) These rates were not compared to prepandemic rates. Alcohol use disorder was significantly associated with gender; men demonstrated higher rates of alcohol use across all categories of hazardous drinking, harmful drinking and alcohol dependence compared to women.	Moderate
Jackson, S.E., Garnett, C., Shahab, L., Oldham, M., & Brown, J. (2020). Association of the Covid-19 lockdown with smoking, drinking, and attempts to quit in England: an analysis of 2019-2020 data. Preprint.	May 27, 2020	Cross- sectional	n=20,558	England	A monthly survey of adults in England aged 16 and older found that the prevalence of high-risk drinking increased during the COVID-19 pandemic, with 38.3% in April 2020 compared to 25.1% from April 2019 to February 2020 (OR 1.85, 95%Cl 1.67, 2.06). High-risk drinkers were approximately twice as likely to attempt to reduce alcohol intake during the COVID-19 pandemic compared to prior (28.5% vs 15.3%, OR 2.16, 95%Cl 1.82, 2.68). The proportion seeking remote support	Moderate

					to reduce intake did not increase significantly (6.9% vs 6.1%, OR 1.32, 95%Cl 0.64, 2.75).	
Scarmozzino, F., & Visioli, F. (2020). Covid-19 and the subsequent lockdown modified dietary habits of almost half the population in an Italian sample. Foods, 9(5), 675.	May 25, 2020	Cross- sectional	n=1929	Italy	Compared to pre-pandemic alcohol intake, a survey of individuals in Italy found: • 10.1% reported an increase in alcohol intake • 36.8% reported a decrease in alcohol intake • 53.1% reported no change in alcohol intake Consumption of one serving of alcohol (1 glass of wine/1 can of beer/l shot of liqueur)	Low
					were reported as follows: • less than once a day (77%) • once a day (13.2%) • twice a day (7.8%) • three or more times a day (2.0%)	
Ammar, A., Brach, M., Trabelsi, K., Chtourou, H., Boukhris, O., Masmoudi, L., Bouaziz, B., Bentlage, E., How, D., Ahmed, M., Mueller, P., Mueller, N., Aloui, A., Hammouda, O., Paineiras-Domingos, L.L., Braakman-Jansen, A., Wrede, C., Bastoni, S., Pernambuco, C.S., & Hoekelmann, A. (2020). Effects of COVID-19 home confinement on physical activity and eating behaviour: Preliminary results of the ECLB-COVID19 international	May 8, 2020	Cross- sectional	n=1047	Western Asia, North Africa, Europe, Other (not specified)	Compared to pre-pandemic alcohol intake, an international survey of adults found binge drinking behaviours decreased in frequency, with changes to the reported frequency as follows: • sometimes (5.4% vs. 10.1%) • most of the time (1.2% vs. 1.8%) • always (0.2% vs. 0.4%) The significance of these changes was not reported.	
online-survey. Preprint. Canadian Centre on Substance Use and Addiction. (2020, May). Boredom and stress drives increased alcohol consumption during COVID-19: NANOS poll summary report.	May 2020	Cross- sectional	n=1009	Canada	Compared to pre-pandemic alcohol intake, a survey of adults in Canada aged 18 and older who reported staying home more during the pandemic found: • 20% reported an increase in alcohol intake • 10% reported a decrease in alcohol intake • 47% reported no change in alcohol intake Younger people in Canada (aged 18–34) were more likely to report drinking more often during the COVID-19 pandemic compared to	Moderate

older Canadians (aged 55 and older). Among those who reported staying at home more and who consumed alcohol, frequency of alcohol consumption in May 2020 was reported as: • two to three times a week (24%) • once a day (21%) • four to five times a week (18%) • once a week (11%) • two to three times a month (10%) • once a month or less (6%) Men reported consuming an average of 2.8 standard drinks on days they drank, and women reported consuming an average of 2.4 standard drinks. Reasons for consuming alcohol more often in May compared to April 2020 were reported • stress and boredom (34%) • lack of regular schedule (29%) • Ioneliness (23%) Reasons for consuming alcohol less often in May compared to April 2020 were reported • preventive measure against getting COVID-19 (32%) • lack of social gatherings/limited socialization (31%) Reported frequency of not being able to stop drinkina: • 92% reported this has not happened • 4% reported a few times • 2% reported once • 1% reported a few times, daily or almost daily Reported frequency of failing to complete

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Sanchez, T. H., Zlotorzynska, M., Rai, M., & Baral, S. D. (2020). Characterizing the impact of COVID-19 on men who have sex with men across the United States in April, 2020. AIDS and Behavior. Epub ahead of print.	Apr 29, 2020	Cross- sectional	n=1051	United States	expected activities due to alcohol: 97% reported this has not happened 2% reported a few times 1% reported once Reported frequency of being unable to remember what happened on a previous night due to drinking included: 94% reported this has never happened 3% reported a few times 2% reported once 1% reported more than a few times or daily or almost daily Almost all participants (99%) reported no injuries to themselves or others due to their drinking. Almost all participants (98%) reported that they have not accessed resources to guide decision-making on alcohol consumption. Compared to pre-pandemic alcohol intake, a survey of men who have sex with men (MSM) in the United States aged 15 and over found: 26.0% reported an increase in alcohol intake 10.1% reported a decrease in alcohol intake 10.1% reported a decrease in alcohol intake Cec.6% reported no change in alcohol intake 10.1% reported to older participants (aged 25 years and older). Limitations include convenience sampling, where the sample included predominantly white (non-Hispanic) participants (70.4%) with private health insurance.	Moderate
Canadian Centre on Substance Use and Addiction. (2020, April). <u>25% of</u>	Apr 2020	Cross- sectional	n=1036	Canada	Compared to pre-pandemic alcohol intake, a survey of adults in Canada aged 18 and older	Moderate

Canadians (aged 35–54) are drinking more while at home due to COVID-19 pandemic; cite lack of regular	found: • 18% reported an increase in alcohol intake • 12% reported a decrease in alcohol intake
schedule, stress and boredom as main factors.	• 70% reported no change in alcohol intake Participants aged 35–54 years reported higher rates of increased alcohol consumption (25%) compared to Canadians 18–34 years (21%)
	and those 55 years and older (10%).

Table 3: Surveillance Data

Source	Reference	Date Released	Summary	Quality Rating:
No data found relevant to pa	andemic			

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Canadian Centre on Substance Use and Addiction. (2020). <u>25% of Canadians (aged 35-54) are drinking more while at home due to COVID-19 pandemic; cite lack of regular schedule, stress and boredom as main factors</u>.

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