Harm Reduction Strategies for Severe Alcohol Use Disorder in the Context of Homelessness: A Rapid Review

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ABSTRACT: Severe alcohol use disorder (AUD) in the context of housing instability remains one of the most complex health and social issues. Homelessness is related to increased vulnerability to stigma, marginalization and harmful ways of alcohol consumption, including non-beverage alcohol use (NBA). As a result, severe intoxication, alcohol poisoning, injury and death are common occurrences. Although harm minimization strategies have been readily proposed and examined in the context of drug use, applying the same principles to severe AUD remains controversial within the research and treatment community. This article summarizes the emerging research on managed alcohol programs to increase awareness about alcohol-related strategies that address severe AUD and provide other wrap-around supports such as housing, health and social services to mitigate various harms, including COVID-19.

KEYWORDS: Alcohol use disorder, homelessness, harm reduction

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Introduction

Research has continuously shown disproportionally high rates of severe alcohol use disorder [AUD] among individuals experiencing homelessness compared to the general population.[1-6] Still, addressing severe AUD in the context of homelessness has proven to be one of the most complex health and social issues.[7] Many community-based agencies that provide housing support to those with severe AUDs were the first to recognize that requiring abstinence from alcohol as a prerequisite for receiving or maintaining housing did not provide adequate support to this vulnerable population. The harm reduction approaches to severe AUD resulted in reconsidering the practices and principles of housing support to prevent an increase in a range of harms, including the most recent public health threat—the spread of COVID-19.[8-11]

This paper aims to synthesize key literature on harm reduction practices in Managed Alcohol Programs (MAPs) and present the promising research evidence concerning severe AUD in the context of homelessness in populations that, due to the complexity of their health and social issues, do not benefit from conventional treatment modalities focused on alcohol abstinence. The search of 4 databases, CINAHL, MEDLINE, Social Services Abstracts and Web of Science, was conducted to identify peer-reviewed gray literature published since 2003 to account for the development and early consideration of harm reduction for severe AUD. Only publications in English were included; due to the topic's novelty, the search was not limited by design. Common search keywords were: managed alcohol program(s), harm reduction, severe alcohol use disorder, homelessness, housing first, shelters, Indigenous and Aboriginal. Searches for COVID-19 and managed alcohol programs were added to the review in 2022. The literature review yielded more than 40 articles that were considered relevant to the topic. First, the paper discusses services for those who have severe AUD and experience homelessness and outlines the associated risks in this context. Second, it offers an overview of the extant research on Managed Alcohol Programs (MAPs); it outlines the benefits and challenges of this intervention in general and in the context of COVID-19 lockdowns. The conclusion summarizes the broad recommendations regarding this novel intervention.

Housing Support for People With Severe Alcohol Use Disorder

The Housing First (HF) model was developed for individuals whose experiences of chronic homelessness and substance use prevented them from obtaining or maintaining housing support. As a well-documented evidence-based model,[12-14] the HF model emphasizes the client's choice and self-determination regarding housing and advocates for the use of harm reduction principles to mitigate the negative consequences of chronic alcohol and drug use.

Two main approaches used in the HF model are scattered-site and single-site housing, also known as Permanent Supportive Housing (PSH). In scattered-site HF programs, individual housing units (ie, apartments) are provided to those in need in the community, usually with access to health and social supports.[12,15-18] Developed in the early 1990s by Tsemberis and colleagues in New York City, the scattered-site HF approach has been successfully implemented across the United States and Canada.[12,13] In single-site housing, clients live in separate units in a stand-alone building with access to

supportive services, including case management and medical care.[13,15,16] Contrary to permanent supportive housing, transitional housing initiatives, commonly known as 'wet' shelters, respond to chronic and severe alcohol use of their clients by providing 24-hour in-shelter harm reduction programs that allow people who are intoxicated but do not present a safety risk for themselves or others to use the shelter.[19]

Severe alcohol use disorder in the context of homelessness

Severe alcohol use disorders in individuals who experience homelessness are related to additional health risks, such as non-beverage alcohol use that leads to severe alcohol intoxication, injuries, freezing and death.[20-22]

Non-beverage alcohol use. For the most vulnerable, consuming non-beverage alcohol (NBA) presents a necessary alternative to standard beverage alcohol due to its lower cost and availability. Typically, the consumed NBA can be found in several products such as medicinal compounds, aftershaves, industrial spirits or fire-lighting liquids.[23-25] Chronic ingestion of NBA can cause serious health effects, including damage to several organs.[23,24] Compounds, such as methyl salicylate, can cause toxic effects on the gastrointestinal, central nervous and hematological systems and disturbances in the body's acid-base balance. Another component, thymol, has been shown to cause gastric pain, nausea, vomiting and central hyperactivity, such as talkativeness, convulsions, coma and cardiac and respiratory collapse.[24] The consumption of NBA can lead to alcohol poisoning due to the much higher percentage of alcohol in the products consumed than in beverage alcohol.[23]

Health-related complications of NBA include poorer cognitive performance and visuospatial abilities, reported in both retrospective and prospective memory deficits and higher anxiety levels than a cohort of beverage chronic alcohol users who experienced homelessness.[26] In addition, the stigma and exclusion of NBA consumers in the community of other alcohol users who are homeless warrant seeking alternatives to traditional treatments for stabilizing these clients.

Harm Reduction for Severe Alcohol Use Disorder: Managed Alcohol Programs

Managed alcohol programs (MAPs) have been adopted in the context of the Housing First model, emergency homeless shelters,[27] and residential care facilities.[13] The harm reduction interventions within the structured MAPs address non-beverage alcohol use by prescribing doses of alcohol of known quality at regular intervals to create safer and more stable living environments for their clients.[21,28,29] Also, stabilizing drinking patterns may reduce binge drinking and withdrawal symptoms.[30] MAPs usually provide beverage alcohol, such as beer or wine, to program participants in set amounts at regular intervals throughout the day.[21,31] Supports such as housing, meals and medical care are often part of the program.[32,33]

For most clients in MAPs, abstinence-based treatment did not provide stability even after several attempts.[34] Many MAPs have been established and run in Canada since the later 1990s as a reaction to the tragic deaths of 3 homeless men in Toronto who had been denied adequate shelter due to their alcohol intoxication.[21,29] Depending on the type of housing offered, whether permanent or transitional, housing can be conditional on participation in some MAPs.[21] Besides, MAPs can operate in permanent supportive housing settings where just a few units are set aside for MAP clients, or the programming can be delivered through a homeless shelter.[34]

Programmatic structures of managed alcohol program

Criteria for admission into MAP typically include chronic homelessness, severe AUD, a high rate of police or emergency services contact, repeated attempts at abstinence-based treatment programs or harm to themselves or the public.[7,32,35,36] Many programs require that physicians or nurses screen potential clients with the Alcohol Use Disorders Identification Test used to assess the severity of alcohol use of potential clients.[29,30] Other admission criteria can involve the need for shelter-based palliative care due to a diagnosis of a life-threatening illness, an absence of natural caregivers or financial vulnerability.[33]

Program support staff, and health care providers, such as physicians, nurses and social workers, are integral to many MAPs. Some shelter-based MAPs have nurses on-site 24 hours per day, with physicians visiting the program at least once per week.[27,31,33,35] Without on-site medical care, program staff facilitate access to community physicians, nurses and other social and counselling services.[31,37]

Alcohol administration policies. The alcohol administered by program staff ranges in alcohol volume and typically includes beer, wine or spirits. Most MAPs provide clients with wine that is 12% alcohol on average by volume; serving sizes can range from 4 to 7 ounces.[21,27,29] The serving size for spirits ranges from 1.5 to 3 ounces, and beer ranges from 12 to 14 ounces.[27,29] Although the serving sizes are tailored to clients to stabilize them,[29] staff of some MAPs have the authority to adjust each client's 'dose' based on their behaviour in the program,[36] health status or medication taking.[7] Also, staff adjust 'doses' or do not serve alcohol to clients who show signs of severe intoxication, such as slurred speech, loss of balance and coordination and confusion.[21,29,30] To discourage the consumption of outside alcohol onsite, some of the MAPs allow staff to conduct room searches in addition to pat-downs of the clients upon their return to the MAP,[30] and repeated outside drinking can lead to a review of the client's participation in the MAP.[30] Residents who wish to abstain from alcohol or reduce their alcohol intake

but still want to participate in the program's daily rhythm can be offered non-alcoholic beverages and 'near beer' to do so.[33]

Supplementary services. In addition to alcohol use-related harm reduction, MAPs offer other services such as accommodation, meals and recreation.[7,33,37] Clients are often involved in the preparation or clean-up of meals, and recreational supports and services for clients such as crafts, music and life skills training[21,37] or exercise to combat weight gain that is often experienced after stabilization in the MAP.[7] Transportation to services in the community and money management can also be provided.[37] In the cases where clients contribute to the cost of alcohol administration, the staff helps clients to budget their money. While some MAPs consider this essential to mitigating clients' financial vulnerability, others deem money management inconsistent with clients' self-determination and empowerment.[7]

Challenges and Benefits Related to Managed Alcohol Programs

Despite the benefits of MAPs, such as stabilizing drinking patterns and reducing heavy episodic drinking, the potential to increase the consumption of alcohol among clients exists mainly due to drinking every day as opposed to previous patterns and taking days off or drinking outside of the program. Many programs have policies to discourage drinking outside of the MAP to mitigate adverse consequences of alcohol-related harms, such as incorporating medical assistance and medication to help clients with days of abstinence and providing referrals to detox.[29]

It is important to consider the outcomes of MAPs in the context of the populations that receive services within this novel harm reduction strategy, as well as the service systems that have often failed to respond to the complexity of the issues and living conditions of the typical MAP clientele. The study of residential MAPs or shelter-based palliative care showed that most of the MAPs clients are seriously ill before entering the programs, and their health deteriorates despite the best efforts of the healthcare providers.[33,35] Some diagnoses at admission to MAPs include cirrhosis, malignancy and HIV, with an average time from admission to death being only 4 months.[31] Although the common goal of MAPs is preserving human dignity, improving the quality of life and assisting this under-serviced population, more outcome evaluation research is warranted, especially for long-term chronic harms associated with regular alcohol use in MAPs and how to mitigate them.

Recovery, healing and reconnection

The managed alcohol programs that provide alcohol in measured, regular doses throughout the day, usually along with housing and other supports, offer a safe space for participants to seek the paths toward recovery, healing and reconnection with their culture and communities. MAP clients reported being sheltered from street violence, drinking in unsafe locations and the stigma of alcohol use and homelessness.[21,37] Furthermore, MAP clients were less likely to sleep in unsafe places or steal NBA, felt the programs provided control over the amount of alcohol consumed and a safer and more regulated way to drink alcohol.[34] Furthermore, some MAP clients experienced periods of abstinence from alcohol. Many became aware that change is possible and often necessary after their program enrollment, with others feeling a sense of belonging.[34] These positive experiences were created through the programs' physical environment and supportive relationships.[33,38]

In addition to meeting basic needs, MAPs provide clients with the stability and support offered because of the consistency of alcohol provided. Some MAP clients reported improved relationships with family or other program participants.[29,36,39] Additionally, clients of MAPs were more aware of their medical conditions and personal health concern, and drank NBA alcohol on fewer days than the control participants[31,36] Reducing NBA use is important as it reduces the risk of long-term alcohol-related illnesses such as liver disease and certain cancers.[30] Additionally, clients in both studies reported significantly less social, health (including withdrawal seizures), safety and legal harm related to alcohol than controls.[34,36]

Reduction in public service use and cost savings

Housing First-related and shelter-based MAPs have shown promise in service use and overall cost savings for the communities and health and social services. Specifically, clients of one of the first shelter-based MAP programs at Annex in Toronto showed a significant decrease in emergency room visits. On average, clients visited the emergency room 10.7 days per year before the p 2.9 days after 27 months in the program.[38] The number of inpatient hospital days dropped from 4.2 to 0 days within the same period, and the number of days spent in prison was an average of 8.5, which decreased to 0 after 27 months in the Annex program.[38]

Furthermore, MAPs were found to reduce emergency room visits, hospital admissions (by 32%) and police encounters leading to custody (-33%) when in the program.[34] Similarly, Podymow et al[31] found a 36% reduction in emergency room visits and a 51% reduction in police encounters among MAP clients. If clients were in contact with police due to intoxication in the community, police officers who knew the person was a MAP client would often take them back to the MAP instead of to the holding cell.[21] Hammond et al's[40] cost-benefit analysis for a MAP in Ontario found that MAP clients 'spent 94.5% less time receiving detoxification treatment, 42.5% less time receiving inpatient treatment and 67% less time in police custody than before program entry' (p. 12). As for the monetary costs of these services, MAP clients decreased their public service utilization costs by $15,165 (64.8%) compared to the costs incurred before entry into the program. The authors estimated

savings of between $1.09 and $1.21 for every dollar invested in a MAP.[40] As for end-of-life care, Podymow et al[31] determined that the shelter-based MAP costs $125 per day (in 2006 dollars). In contrast, hospitals' traditional palliative and tertiary care costs $684 and $633 per day (in 2006 dollars), respectively. The care at the MAP included housing, food, nursing care, a client care worker, medical supplies and physician costs.

Managed alcohol programs in the context of the COVID-19 pandemic

Community-wide lockdowns and mandated quarantines to slow the spread of COVID-19 (WHO, 2020) that many countries resorted to throughout the pandemic impacted all aspects of human life. Access to alcohol, increased levels of alcohol use issues, as well as difficulties coping with social isolation and a lack of support during the pandemic, had a profound effect on drinking behaviours across the globe.[39,41,42] The unprecedented measures during the COVID-19 pandemic substantially worsened the quality of life of the already vulnerable, including the poor, the homeless and those with severe alcohol problems.[8-11,43] The 'silver lining' of this public health crisis was the opportunity to reconsider the role of harm reduction for severe alcohol use,[43] reduce barriers to housing support and services and the advocacy and resourcefulness of community providers in reducing disruption and isolation at the start of the pandemic.[8,9,11] MAPs that proliferated in the USA, Canada or Scotland adapted methods of engagement with clients to provide comprehensive physical and emotional support.[8-11,43] Brothers et al[9] reported favourable outcomes of COVID-19 isolation hotel shelter residents (May 2021), where an emergency 'safe supply' of medications, opioid agonists and alcohol or cigarettes was provided for residents with diverse needs. Most residents completed 14 days of isolation during the local outbreak. During 1059 person-days, concerns regarding alcohol intoxication occurred 6 times, there were no drug overdoses and only 3 instances of attempted medication diversion. Similarly, temporary MAP that assisted participants during COVID-19 quarantine hospitalization in a small Alaskan community showed an alternative path to minimize the risk of both spread of COVID-19 and preventing alcohol withdrawal.[8]

Conclusion

Informed by a harm reduction perspective, MAPs offer a targeted intervention at individual, agency, community and societal levels. They are part of permanent housing support programs or day programs at shelters and more stable accommodations.[28] Although the aim of this paper was not to provide an exhaustive review of the topic, it offers a summary and consideration of an emergent and novel approach to the complexities of severe AUD in the context of homelessness that could be coupled with additional disruptions in health and social services. Also, we wanted to keep this rapid literature review focused on MAPs only to reconsider interventions for this specific population that had not benefited from more conventional treatment interventions (detox, residential treatment or pharmacological treatment of severe AUD). Most of the literature on harm reduction is dominated by harm reduction research on illicit drug use. MAPs could address the research and service gap in harm reduction services for severe AUD in the homeless population in the long run.

The reviewed literature suggests that MAP, which has emerged as a response to several health and social crises and tragic but preventable deaths of individuals experiencing homelessness and severe alcohol use, is a promising harm-reduction practice.[21,28,29] Additionally, during the COVID-19 lockdowns, many community-based organizations could not operate at full capacity,[43] and the vulnerable populations with AUD could experience a return to more harmful alcohol use, including the consumption of NBA. The anecdotal evidence and the call for action for more harm reduction approaches for severe AUD highlighted how researchers and communities raised to the occasion and created and delivered feasible harm and risk minimization services for the most vulnerable. In the future, clinicians and researchers could consider conducting more evaluation studies on alcohol harm reduction practices to consider recovery and increasing the quality of life as a continuum rather than a use/non-use dichotomy.

REFERENCES

1. Baggett TP, Chang Y, Singer DE, et al. Tobacco-, alcohol-, and drug-attributable deaths and their contribution to mortality disparities in a cohort of homeless adults in Boston. *Am J Public Health*. 2015;105:1189-1197.
2. Fazel S, Geddes JR, Kushel M. The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet*. 2014;384:1529-1540.
3. Neisler J, Shree S, Reitzel LR, et al. Characterizing alcohol use behaviors among homeless men and women. *Am J Health Behav*. 2019;43:37-39.
4. Stringfellow EJ, Kim TW, Gordon AJ, et al. Substance use among persons with homeless experience in primary care. *Substance Abuse*. 2016;37:1-8.
5. World Health Organization. *Global Status Report on Alcohol and Health 2018*. WHO; 2019.
6. World Health Organization. *Alcohol and COVID-19: What you need to know*. WHO; 2020.
7. Pauly B, Vallance K, Wettlaufer A, et al. Community managed alcohol programs in Canada: overview of key dimensions and implementation. *Drug Alcohol Rev*. 2018;37:S132-S139.
8. Brocious H, Trawver K, Demientieff LX. Managed alcohol: one community's innovative response to risk management during COVID-19. *Harm Reduct J*. 2021;18:125.
9. Brothers TD, Leaman M, Bonn M, et al. Evaluation of an emergency safe supply of drugs and managed alcohol program in COVID-19 isolation hotel shelters for people experiencing homelessness. *Drug Alcohol Depend*. 2022;235:109440.
10. Carver H, Parkes T, Masterton W, et al. The potential for managed alcohol programmes in Scotland during the COVID-19 pandemic: a qualitative exploration of key areas for implementation using the consolidated framework for implementation research. *Int J Environ Res Public Health*. 2022;19:15207.
11. Parkes T, Carver H, Masterton W, et al. "You know, we can change the services to suit the circumstances of what is happening in the world": a rapid case study of the COVID-19 response across city centre homelessness and health services in Edinburgh, Scotland. *Harm Reduct J*. 2021;18:64.
12. Collins SE, Clifasefi SL, Andrasik MP, et al. Exploring transitions within a project-based housing first setting: qualitative evaluation and practice implications. *J Health Care Poor Underserved*. 2012;23:1678-1697.
13. Collins SE, Malone DK, Clifasefi SL. Housing retention in single-site housing First, for chronically homeless individuals with severe alcohol problems. *Am J Public Health*. 2013;103:S269-S2674.

14. McNaughton E, Nelson G, Goering P, Piat M. The at home/Chez Soi project: moving the evidence into policy. *Canadian Mental Health Association*. 2016. https://www.mentalhealthcommission.ca/wp-content/uploads/drupal/2016-11/national_at_home_sustainability_report_eng.pdf
15. Clifasefi SL, Collins SE, Torres NI, Grazioli VS, Mackelprang JL. Housing first, but what comes second? A qualitative study of resident, staff and management perspectives on single-site housing first program enhancement. *J Commun Psychol*. 2016;44:845-855.
16. Collins SE, Clifasefi SL, Dana EA, et al. Where harm reduction meets housing first: exploring alcohol's role in a project-based housing first setting. *Int J Drug Policy*. 2012;23:111-119.
17. Collins SE, Malone DK, Larimer ME. Motivation to change and treatment attendance as predictors of alcohol-use outcomes among project-based housing first residents. *Addict Behav*. 2012;37:931-939.
18. Collins SE, Malone DK, Clifasefi SL, et al. Project-based housing first for chronically homeless individuals with alcohol problems: within-subjects analyses of 2-year alcohol trajectories. *Am J Public Health*. 2012;102:511-519.
19. Svoboda T. Message in a bottle: wet shelters embody true harm reduction approach. *Crosscurrents*. 2008;12, 20.
20. Aubry T, Klodawsky F, Coulombe D. Comparing the housing trajectories of different classes within a diverse homeless population. *Am J Commun Psychol*. 2012;49:142-155.
21. Pauly B, Gray E, Perkin K, et al. Finding safety: a pilot study of managed alcohol program participants' perceptions of housing and quality of life. *Harm Reduct J*. 2016;13:1-11.
22. Stockwell T, Pauly B, Chow C, et al. Does managing the consumption of people with severe alcohol dependence reduce harm? A comparison of participants in six Canadian managed alcohol programs with locally recruited controls. *Drug Alcohol Rev*. 2018;37:S159-S166.
23. Lachenmeier DW, Rehm J, Gmel G. Surrogate alcohol: what do we know, and where do we go? *Alcohol Clin Exp Res*. 2007;31:1613-1624.
24. Lachenmeier DW, Monakhova YB, Markova M, Kuballa T, Rehm J. What happens if people start drinking mouthwash as surrogate alcohol? A quantitative risk assessment. *Food Chemical Toxicol*. 2013;51:173-178.
25. Neufeld M, Lachenmeier DW, Hausler T, Rehm J. Surrogate alcohol containing methanol. Social deprivation and public health risk in Novosibirsk, Russia. *Intern J on Drug Policy*. 2016;37:107-110.
26. Soar K, Papaioannou G, Dawkins L. Alcohol gel ingestion among homeless eastern and central Europeans in London: assessing the effects on cognitive functioning and psychological health. *Substance Use Misuse*. 2016;51:1274-1282.
27. Podymow T, Turnbull J, Coyle D, Yetisir E, Wells G. Shelter-based managed alcohol administration to chronically homeless people addicted to alcohol. *CMAJ Can Med Assoc J*. 2006;174:45-49.
28. Smith-Bernardin SM, Suen LW, Barr-Walker J, Cuervo IA, Handley MA. Scoping review of managed alcohol programs. *Harm Reduct J*. 2022;19:82.
29. Stockwell T, Pauly B, Chow C, Vallance K, Perkin K. Evaluation of a managed alcohol program in Vancouver, BC: early findings and reflections on alcohol harm reduction. 2013, December. https://www.uvic.ca/research/centres/cisur/assets/docs/bulletin9-evaluation-managed-alcohol-program.pdf
30. Chow C, Wettlaufer A, Zhao J, Stockwell T, Pauly BB, Vallance K. Counting the cold ones: a comparison of methods measuring total alcohol consumption of managed alcohol program participants. *Drug Alcohol Rev*. 2018;37 Suppl 1:S167-S173.
31. Podymow T, Turnbull J, Coyle D. Shelter-based palliative care for the homeless terminally ill. *Palliative Med*. 2006;20:81-86.
32. Erickson RA, Stockwell T, Pauly BB, et al. How do people with homelessness and alcohol dependence cope when alcohol is unaffordable? A comparison of residents of Canadian managed alcohol programs and locally recruited controls. *Drug Alcohol Rev*. 2018;37 Suppl 1:S174-S183.
33. Evans J, Semogas D, Smalley JG, Lohfeld L. "This place has given me a reason to care": understanding 'managed alcohol programs' as enabling places in Canada. *Health Place*. 2015;33:118-124.
34. Vallance K, Stockwell T, Pauly B, et al. Do managed alcohol programs change patterns of alcohol consumption and reduce related harm? A pilot study. *Harm Reduct J*. 2016;13:1-11.
35. Kidd SA, Kirkpatrick H, George L. Getting to know Mark, a homeless alcohol-dependent artist, as he finds his way out of the river. *Addict Res Theory*. 2011;19:102-111.
36. Pauly B, Stockwell T, Chow C, et al. Centre for addiction research of BC. *Towards alcohol harm reduction: preliminary results from an evaluation of a Canadian managed alcohol program*. 2013, December. https://www.homelesshub.ca/sites/default/files/attachments/Towards%20Alcohol%20Harm%20Reduction.pdf
37. Evans J. Supportive measures, enabling restraint: governing homeless 'street drinkers' in Hamilton, Canada. *Soc Cult Geog*. 2012;13:185-200.
38. Svoboda T. *Measuring the "Reduction" in a Harm Reduction Program for Homeless Men Experiencing Harm Related to Alcohol Abuse and Problem Behaviors*. ProQuest Dissertation Global, 2006.
39. Fabelo-Roche JR, Iglesias-Moré S, Gómez-García AM. Persons with substance abuse disorders and other addictions: coping with the COVID-19 pandemic. *MEDICC Rev*. 2021;23:55.
40. Hammond K, Gagne L, Pauly B, Stockwell T. A cost-benefit analysis of a Canadian managed alcohol program. 2016. https://www.uvic.ca/research/centres/cisur/assets/docs/report-a-cost-benefit-analysis-of-a-Canadian-map.pdf
41. Killgore WDS, Cloonan SA, Taylor EC, Lucas DA, Dailey NS. Alcohol dependence during COVID-19 lockdowns. *Psychiatr Res*. 2021;296:113676.
42. Murthy P, Narasimha VL. Effects of the COVID-19 pandemic and lockdown on alcohol use disorders and complications. *Curr Opin Psychiatr*. 2021;34:376-385.
43. Kouimtsidis C, Pauly B, Parkes T, Stockwell T, Baldacchino AM. COVID-19 social restrictions: an opportunity to re-visit the concept of harm reduction in the treatment of alcohol dependence. A position paper. *Front Psychiatr*. 2021;12:623649.