Brazilian Journal of Psychiatry
bjp
Revista Brasileira de Psiquiatria

CC BY

LETTER TO THE EDITORS

Substance use and climate change: heating up the debate

Braz J Psychiatry. 2025;47:e20254319
doi:10.47626/1516-4446-2025-4319

CC BY

Psychological distress from social and economic disruptions caused by climate disasters can lead to maladaptive coping mechanisms, including harmful substance use. Climate disasters can also exacerbate psychiatric illnesses, making individuals more vulnerable to substance-related harms, posttraumatic stress disorder, and anxiety.[1] The issue of climate-related health risks was recently highlighted in an editorial published by the National Academy of Medicine.[2]

Conversely, substance use can impair environmental perception, diminishing an individual's ability to respond appropriately to weather changes (e.g., maintaining adequate hydration and wearing appropriate clothing), thereby increasing the risk of adverse health outcomes. For example, intake of alcohol, medications, and illicit substances during heatwaves is associated with increased mortality rates.[3]

All these factors can be compounded by climate change-related disruptions in substance use disorder (SUD) treatment. Extreme weather events could impair access to SUD treatment through three distinct impacts: destruction of physical infrastructure of health facilities[1]; an insufficient number of mental health professionals due to a surge in demand; and diversion of funds away from drug policy programs as resources are reallocated to recover infrastructure and the economy. Limited access to SUD treatment can lead to increased relapse and overdose rates.[4]

The disruption of drug supply and distribution chains due to climate change may represent a further challenge to public health.[4] Extreme temperatures, rising sea levels, and other environmental changes can impact drug production and distribution. Resulting drug shortages could lead to widespread harm among people with SUD, as individuals may struggle to access and afford their preferred substances, resulting in more harmful patterns of use - e.g., taking synthetic cannabinoids such as "K2" and "Spice" instead of natural substances. Such disruptions in supply are likely to precipitate severe withdrawal symptoms and intense cravings, necessitating urgent medical intervention on a scale healthcare systems might not be ready for. Drug adulteration would also likely increase, with a greater risk of unanticipated events and increased utilization of general health facilities, such as emergency rooms, by affected users.[5]

Finally, the environmental harm caused by drug production is also a significant concern. Illegal drug production leads to deforestation, air pollution, intensive water usage and contamination, and soil degradation, as well as other forms of environmental degradation connected to drug-related crimes such as illegal mining and logging and wildlife trafficking.[6]

The emerging intersection between climate change and SUD demands urgent and targeted attention. Addressing this nexus requires fostering collaboration between drug policy reform advocates and environmental justice proponents to advance integrated approaches that promote climate justice and public health. Hence, a multidisciplinary approach that integrates environmental sustainability, drug policy reform, and harm reduction is imperative to address the complex challenges at the intersection of climate change and substance use. We propose several initiatives to mitigate these detrimental effects:

1. Investment in additional research to understand the repercussions of climate events on substance use patterns and thus inform policymaking and intervention strategies.
2. Development of public health strategies focused on harm reduction approaches to minimize risks for those who use substances. For instance, tailored educational campaigns could empower individuals to adopt safer practices, such as ensuring adequate hydration and recognizing the heightened risks associated with substance use in high temperatures.
3. Formulation of response plans in advance of extreme weather events to provide better care to those who use substances when these events occur.
4. Advance commitment to allocate resources to healthcare infrastructure for SUD treatment.
5. Expansion of training on substance use and SUD in primary care, considering the availability of specialized care can be limited during extreme climate events.
6. Use digital resources that increase access to healthcare, such as telehealth appointments and online group therapy facilitation, to prevent disruption of SUD treatment during weather-related disasters.

The potential for a public health crisis underscores the need to address the connection between substance use and climate change bidirectionally. In other words, integrating substance-use considerations into climate change mitigation strategies is as crucial as adjusting SUD treatment strategies to the emerging circumstances imposed by climate change. Environmental sustainability, drug policy reform, harm reduction, amplification of SUD training, and access to healthcare are fundamental priorities and should be integrated into multidisciplinary approaches. These interventions have the potential to substantially reduce adverse health outcomes and improve the resilience of vulnerable populations.

Gabriella da Silva **Monteiro**,[1] Maria Angelica Torneli **Ribeiro**,[1] Vitor Soares **Tardelli**,[2,3] Thiago Marques **Fidalgo**[1]

[1]*Departamento de Psiquiatria, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, SP, Brazil.*
[2]*Department of Psychiatry, St. Michael's Hospital, Toronto, ON,*

Canada. [3]*Department of Psychiatry, University of Toronto, Toronto, ON, Canada.*

Submitted Apr 29 2025, accepted May 09 2025.

Acknowledgements

TMF is funded by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq; grant 313241/2022-8).

Disclosure

The authors report no conflicts of interest.

Author contributions

GSM: Conceptualization, Investigation, Writing – original draft, Writing – review & editing.
MATR: Conceptualization, Investigation, Writing – original draft, Writing – review & editing.
VST: Conceptualization, Investigation, Supervision, Writing – original draft, Writing – review & editing.
TMF: Conceptualization, Investigation, Supervision, Writing – original draft, Writing – review & editing.

Handling Editor: Andre Brunoni

How to cite this article: Monteiro GS, Ribeiro MAT, Tardelli VS, Fidalgo TM. Substance use and climate change: heating up the debate. Braz J Psychiatry. 2025;47:e20254319. http://doi.org/10.47626/1516-4446-2025-4319

References

1 Vergunst F, Berry HL, Minor K, Chadi N. Climate change and substance-use behaviors: a risk-pathways framework. Perspect Psychol Sci. 2023;18:936-54.
2 Dzau VJ, Laitner MH, Balatbat CA, Taylor S. Climate change and human health – a research agenda for action. N Engl J Med. 2025 Apr 22. doi: 10.1056/NEJMsb2504599. Epub ahead of print.
3 Walinski A, Sander J, Gerlinger G, Clemens V, Meyer-Lindenberg A, Heinz A. The effects of climate change on mental health. Dtsch Arztebl Int. 2023;120:117-24.
4 Ezell JM. Climate change and the opioid epidemic. J Addict Med. 2023;17:500-2.
5 Luca GB, Hidalgo J, Monteiro CD, Couto VA, Oliveira L, Nogueira ACF. Canabinoides sintéticos: estratégias globais de prevenção e ação. Brasília: Cdesc, UNODC, PNUD, Ministério da Justiça e Segurança Pública; 2024.
6 United Nations Office on Drugs and Crime [Internet]. World Drug Report 2024. [cited 2025 May 21]. https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2024.html