

Alcohol use and misuse during the COVID-19 pandemic: a potential public health crisis?

In an attempt to control the 2019 coronavirus disease (COVID-19) pandemic, governments across the world have implemented distancing measures during the search for medical countermeasures, resulting in millions of people being isolated for long periods. Alcohol misuse is one of the leading causes of preventable mortality, contributing annually to about 3 million deaths worldwide.¹ In some individuals, long term, excessive alcohol misuse might escalate into an alcohol use disorder. The potential public health effects of long-term isolation on alcohol use and misuse are unknown.

Stress is a prominent risk factor for the onset and maintenance of alcohol misuse. For example, chronic alcohol use results in neuroadaptations in stress and reward pathways, which lead to dysfunctional hypothalamic pituitary adrenocortical and sympathetic adrenomedullary axes, characterised by dysregulation of the cortisol response and deficits in emotional regulation.² In turn, these neuroadaptations lead to increased cravings for alcohol in response to stress. The effects of long-term social isolation on stress levels, including increased neuroendocrine responses and stress reactivity, have been described in non-human animals.³ However, the ongoing lockdowns across many countries are unique and little is known of the effects on the general population of chronic isolation (with respect to health and wellbeing) in these circumstances

A risk factor for the onset and maintenance of alcohol misuse and alcohol use disorder is trait impulsivity (ie, the tendency to take risks or act without adequate forethought or reflection). Impulsivity can moderate stress-induced consumption of

alcohol⁴ and is also associated with relapse in addicted individuals.⁵ Thus, this period of isolation might lead to a spike in alcohol misuse, relapse, and potentially, development of alcohol use disorder in at-risk individuals, therefore placing further strain on addiction and drug and alcohol services, and the health service in general, during and after the pandemic.

Most governments, including the UK Government, have responded to the COVID-19 pandemic by advising the public to remain indoors, avoid unnecessary social contact, to protect themselves and health-care systems, and to save lives. We suggest that, as well as this important public health advice, governments should give public health warnings about excessive alcohol consumption during isolation to protect vulnerable individuals.

We declare no competing interests.

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- 1 WHO. Global status report on alcohol and health 2018. Geneva: World Health Organization, 2019. https://www.who.int/substance_abuse/publications/global_alcohol_report/en/ (accessed April 1, 2020).
- 2 Koob G, Kreek MJ. Stress, dysregulation of drug reward pathways, and the transition to drug dependence. *Am J Psychiatry* 2007; **164**: 1149–59.
- 3 Weiss IC, Pryce CR, Jongen-Rêlo AL, Nanz-Bahr NI, Feldon J. Effect of social isolation on stress-related behavioural and neuroendocrine state in the rat. *Behav Brain Res* 2004; **152**: 279–95.
- 4 Clay JM, Parker MO. The role of stress-reactivity, stress-recovery and risky decision-making in psychosocial stress-induced alcohol consumption in social drinkers. *Psychopharmacology* 2018; **235**: 3243–57.
- 5 Kreek MJ, Nielsen DA, Butelman ER, LaForge KS. Genetic influences on impulsivity, risk taking, stress responsivity and vulnerability to drug abuse and addiction. *Nat Neurosci* 2005; **8**: 1450–57.



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