An isolated experiment: What the COVID-19 pandemic can tell us about addiction.

Current models of addiction are predicated on the understanding that dopaminergic transmission is the shared substrate of action for addictive drugs. Yet, in recent years, a measure of doubt has been cast over the unified conception of addiction this has fostered, perhaps most directly by a series of studies demonstrating an environmentally-cued double dissociation of stimulant and sedative drugs. Preference for one drug over the other is influenced in opposite directions by the context of use: sedatives are preferred in a home environment, whilst stimulants are preferred outside the home. These results in animal studies have led some to question models of addiction built on unitary notions of drug reward, and the suggestion that they might be reflected in human drug-users is a compelling one. Such a finding would challenge our integrated concept of addiction and lend credence to the notion that addictions to drugs of different classes are separate and distinct from one another. The primary obstacles to approaching this question experimentally in humans would be the many ethical implications of placing large numbers of drug-using participants into prolonged, forced isolation. Yet, as a by-product of the international response to the COVID-19 pandemic, this experiment has now been conducted, with millions of people across the world socially isolating in their homes. Reasoning from laboratory findings, we can predict this widespread change inducing a shift in patterns of drug use, away from stimulant drugs, towards sedative drugs. Early results are indicative of just such a shift. International surveys have shown increases in alcohol and opiate use. Sewage monitoring across Europe has shown reduced cocaine and MDMA use, with a higher consumption of alcohol and benzodiazepines. The US, already in the midst of an opioid crisis, has seen a dramatic rise in suspected overdoses. The picture is far from clear as yet, but the limited data emerging to date align with expectations developed from animal studies, and are initially suggestive of an analogous effect in humans. Should these early signs prove accurate, it would have significant practical implications in terms of policy and treatment approaches, but could also give us reason to question the necessary and sufficient components of our current addiction models. One side-effect of the COVID-19 virus may yet be the necessity of reappraising ‘addiction’ as an umbrella term under which can be grouped an unknown number of neurobiologically distinct conditions.

References


