

What the heart can tell us about overcoming alcohol dependence

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(Medical Xpress)—Monitoring heart rate patterns can help identify risk and treat people who are dependent on alcohol by predicting their craving levels, researchers at the University of Sydney have shown.

"Almost 10 percent of Australian adults have an alcohol use disorder and almost 60 percent relapse a year after commencing treatment, so anything that promises to help improve our success rate is exciting," said Daniel Quintana, a PhD student at the University's School of Psychology and Brain and Mind Research Institute.

He is lead author of a study recently published in the journal *Drug and Alcohol Dependence*.

"The findings have implications for treatment, as they could tell us who may have greater problems controlling their drinking and need more intensive treatment."

The results also support the recent advances in understanding the important role played by the [autonomic nervous system](#) in alcohol dependence. This is the part of our nervous system that is largely beyond [conscious control](#) and which regulates our breathing, digestion and [heart rate](#).

"We've demonstrated that using a measure of cardiac regulation can reliably predict the extent to which people struggling with a serious alcohol dependency are able to resist [cravings](#) for alcohol."

The research was conducted on outpatients who are not hospitalised for alcohol dependence but living in the community, and therefore much easier access to alcohol.

"This is the situation of many people in Australia trying to live with an identified alcohol problem," said Quintana.

The researchers measured cardiac regulation by looking at beat-to-beat changes in heart rate (called heart rate variability or HRV) in 26 alcohol dependent outpatients.

"The higher your [heart rate variability](#), the better your cardiac regulation," said Quintana.

An important predictor of whether someone with alcohol dependence will respond to treatment is alcohol craving and impulse control.

"Scientists have identified neural structures associated with [impulse control](#) which have strong interconnections with regions that control cardiac regulation," said Quintana.

The researchers found a demonstrable link between cardiac regulation, as determined using a standard measure of craving.

"In our study, people with better cardiac regulation had fewer problems with craving," said Quintana.

"The Brain and Mind Research Institute is now coordinating a world-first study of how the hormone oxytocin can be used to treat [alcohol dependence](#). We've previously shown that oxytocin increases cardiac regulation, so now we are investigating the role oxytocin might have in reducing alcohol craving."

Biofeedback, deep breathing and mindfulness training are other techniques being explored by researchers to improve cardiac regulation.

More information: www.sciencedirect.com/science/.../S0376871613000847

Provided by University of Sydney

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