

Sleep quality and emotions affect opioid addiction recovery

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Getting enough quality sleep may be as important to one's health as a good diet and exercise, but for people fighting addiction to painkillers, it can also lower their cravings, according to a Penn State study.

Over the past two decades, the number of painkillers prescribed has quadrupled in the U.S., with opioid dependence increasingly being recognized as a public health concern. While previous research has shown sleep disturbance is a risk factor in addiction recovery to a wide range of substances, a group of Penn State researchers is focusing on the rising opioid crisis to discover how both sleep and emotions can affect the recovery process.

Bo Cleveland, associate professor and Social Science Research Institute co-funded faculty member, and graduate student David Lydon-Staley, both in the Department of Human Development and Family Studies, along with researchers at Penn State's College of Medicine, found that in addition to getting enough quality sleep, positive emotions also helped lessen the cravings associated with drug withdrawal. The findings were recently published in the journal *Addictive Behaviors*.

Researchers recruited 68 [patients](#) at the Caron Treatment Center in Wernersville, Pennsylvania, as a part of a larger study that included neurocognitive assessments of relapse risk. Patients had completed a medically assisted withdrawal from opioids at the treatment center 10 to 14 days prior to the start of the study.

Using a smartphone app developed by the Dynamic Real-Time Ecological Ambulatory Methodologies (DREAM) program in the Survey Research Center at Penn State, patients provided reports of their [sleep quality](#) and positive and negative moods, as well as their level of drug cravings, for 12 days.

"A preset alarm notified patients to complete a survey four times each day, with the morning survey assessing sleep quality," Cleveland explained. "The real-time data was then streamed to our lab to monitor compliance and data quality." Additionally, research staff met with patients to build rapport, answer questions and manage technical difficulties.

The researchers found that patients who reported lower quality of sleep also experienced higher than usual drug cravings. While previous studies have shown that sleep quality can affect craving levels across a range of substances during drug withdrawal, for the first time researchers were able to establish a connection between a patient's positive mood and lower than usual drug cravings. "We also found that a positive mood can partially mediate the effects of poor sleep quality on cravings," said Cleveland.

The findings demonstrate the importance of sleep and how sleep disturbance is a risk factor in drug addiction recovery. "We've just begun to evaluate the data from the project, so we'll also be looking into the impacts of other daily processes on relapse from drug addiction and what happens once the patients leave treatment," Cleveland said. "This study opens the door to further research on the relationship between [sleep](#), moods and cravings with patients with other substance abuse."

Provided by Pennsylvania State University

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