

Predicting opioid misuse: new clues

An estimated 20% of all patients presenting for non-cancer related pain at a doctor's office are prescribed opioids – but which of these patients, especially those who use medicine long-term to control chronic pain, are likely to become addicted? Understanding the characteristics of such patients could arm doctors with important insight that could change the face of today's opioid epidemic.

"We know the number of people who take prescription opioids then turn to heroin is on the rise," said R Kathryn McHugh PhD, assistant professor of psychology at Harvard Medical School and an associate psychologist with the Division of Alcohol and Drug Abuse at McLean Hospital. "Our research asks 'can we predict which patients will progress to misuse of opioids before it happens?' and if so, what can we do to prevent that from happening." Dr McHugh says one factor appears to be a person's ability to manage his or her own emotions.

In a recent study in the *Journal of Pain*, McHugh and colleagues looked to identify whether high distress intolerance would make patients with chronic pain more likely to misuse opioid analgesics. Previous research suggests those with chronic pain who misuse their opioids exhibit higher levels of distress in general, as well as heightened reactivity to that distress. "Distress intolerance is defined as the perceived or actual inability to cope with adverse somatic or emotional stress and can be treated effectively with cognitive behavioural therapy," explained McHugh. "For this study, we hypothesised that participants with higher distress intolerance

levels would be more likely to misuse their prescribed opioids. We also examined if stress intolerance linked to high pain sensitivity."

McHugh and her colleagues from Harvard Medical School and Brigham & Women's Hospital in Boston evaluated 51 participants from the latter who were receiving opioid treatment for chronic pain. Participants were, on average, 50 years old. Researchers looked at medical records and examined subjects for pain sensitivity. They also tested their tolerance of their own emotions – did the subjects feel they could handle emotions such as anger or anxiety?

"What we found was that those who were misusing their medication, for instance, by taking more than prescribed, had much less tolerance of their own distress," said McHugh. "When they can't handle how they are feeling, they just want to make it go away, so they are more likely to take an extra pill." Neither the level of the participant's pain or the severity of their depression or anxiety mattered as much as their ability to tolerate distress.

Findings of another study, presented at recent annual meeting of the College on Problems of Drug Dependence, suggest a patient's ability to delay gratification – or hold off getting a reward in order to get a larger reward in the future – also could play a role in opioid misuse. The study involved 139 participants who were in treatment for opioid use disorder and used prescription painkillers or heroin. Although some of these participants had been prescribed opioids for pain, many first started using opioids by getting

Harvard Medical School and McLean Hospital offer promising guidelines on how to predict opioid misuse in patients on long-term pain therapy – and on the role of emotional pain.



About the author

Dr R Kathryn McHugh engages clinical & translational research focusing on the nature and treatment of anxiety and substance use disorders. She is particularly interested in affective vulnerability factors, such as distress intolerance, that are common across psychological disorders, with a focus on those that can be modified with treatment. Dr McHugh also researches the dissemination & implementation of evidence-based treatments, with a focus on behavioural therapies. She is a recipient of awards from the American Psychological Association and the College of Problems on Drug Dependence, and received research funding from local and national agencies, including a K23 Award from the National Institute on Drug Abuse. Dr McHugh also specialises in cognitive behavioural therapy for depression, anxiety, and substance use disorders.

them from friends or family. "People who are more susceptible to a substance use disorder are more impulsive and less likely to delay gratification," said McHugh. This impulsivity makes people more likely to engage in risky behaviours, even when they know they are risky.

There were also differences depending on the type of drug misused. The research found heroin users were much more impulsive and less likely to be patient in seeking gratification than those who misused opioid pills.

More research is needed, but studies like McHugh's could lead to the development of screening tools to help clinicians identify those at higher risk. "Some studies suggest as much as 30-40% of people who are taking opioids for chronic pain will eventually misuse their medications," she said. "Clinicians need all the tools they can get to predict which subset of patients will do well and which will not."

In addition to her work focusing on opiate addiction, McHugh is determined to increase access to quality mental health care for all people in need. Through her research to improve the effectiveness of behavioural therapies and innovative treatment delivery models, such as computer-based treatments, she hopes to address the public health crisis of untreated mental illness globally. "I have seen how effective behavioural therapy can be and how it can transform a person's life," she explained. "When I started diving deeper into public



health statistics, and speaking with people who struggled to access effective care, I realised that effective treatment was not readily available to the vast majority of those who need it."

McHugh has set out to identify methods that could bring much-needed behavioural therapy to a larger audience by developing and testing behavioral treatments that can be more easily disseminated, while also being actively involved in training providers to better identify and treat mental illness. In a paper published in the *Journal of Clinical Psychiatry*, McHugh and her colleagues reported that 75% of patients interviewed preferred psychological talk therapy to medications for the treatment of anxiety and depression. "People reported that they would prefer psychological or talk therapy at a rate of 3-to-1. Studies like these are important: improving the availability of evidence-based treatments in line with patient preferences will likely lead to both more accessible and more effective mental health care."

McLean Hospital is the largest psychiatric affiliate of Harvard Medical School and boasts the largest neuroscience research programme of any private psychiatric hospital in the US. In 2017, it was named the #1 hospital for psychiatric care in the nation by *US News & World Report*. For more information, visit mcleanhospital.org or follow the hospital on Facebook or Twitter.