RESEARCHUPDATE
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Hazelden Betty Ford Foundation

Research Update is published by the Butler Center for Research to share significant scientific findings from the field of addiction treatment research.

Prescription Opioids and Dependence

Concern over opioid abuse and dependence has been reported by scientists for several decades, as opioid abuse has a particularly high mortality rate when compared to other drug classes. While historical research has focused mostly on illicit opioid use (such as heroin), more recent studies are uncovering overwhelming evidence of a widespread epidemic of prescription opioid abuse and dependence.

Prevalence of Abuse and Dependence

It is estimated that over 2 million Americans (aged 12 and older) either abuse or are dependent upon prescription opioid painkillers.[1] According to a 2014 testimony given before the U.S. Senate Caucus on International Narcotics Control, the number of prescriptions written for opioids rose 172% between 1991 and 2013, increasing from 76 million to 207 million.[1] During the same period, the number of overdose deaths due to prescription opioids tripled.[1] In 2013, the Centers for Disease Control and Prevention reported that approximately 44 people in the United States die every day from overdoses involving prescription opioids, totaling 16,235 deaths over the course of a year.[2] Recent data have shown that the number of people with prescription opioid dependence is now 3.5 times greater than the number of people with heroin dependence.[1]

Vulnerability Factors

A person's propensity for abusing and/or becoming dependent upon prescription opioids is related to a multitude of factors. One of the strongest contributors to dependence is the physical reaction that occurs in the brain when individuals use opioids. Opioid drugs create a strong neurophysiological reaction that specifically increases activity in the brain's reward centers, which makes abuse and dependence much more likely to occur (for more information on this topic, please reference the Research Update entitled "Drug Abuse, Dopamine, and the Brain's Reward System"). Because opioid painkillers are commonly prescribed by doctors, patients who use prescription opioids over an extended period of time experience these physiological reactions, which can lead to cravings, abuse, and dependence.[3] Older adults, particularly those in the "baby boomer" generation (born between 1946 and 1964), have also

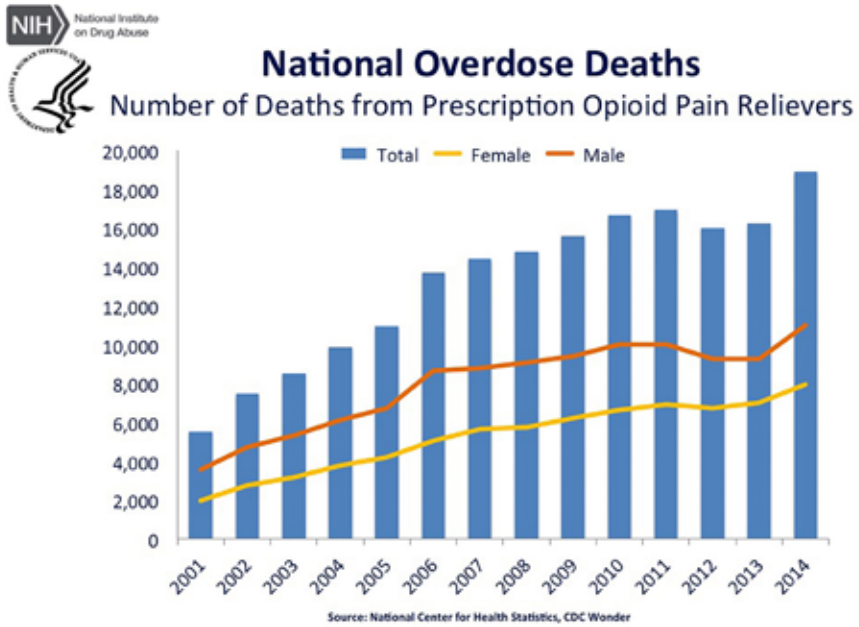

Image Source: *NIH: Science of Drug Abuse and Addiction*, December 2015

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THE HAZELDEN BETTY FORD EXPERIENCE

Comprehensive Opioid Response with the Twelve Steps (COR-12™)

COR-12™ is Hazelden Betty Ford Foundation's response to the nation's epidemic of opioid addiction. The COR-12™ treatment path includes group therapy and lectures that focus on opioid addiction in addition to medication-assisted treatment (MAT) as a means to helping people achieve a stable, Twelve Step–based recovery lifestyle and ultimate abstinence from opioids. Components of the MAT plan include the possible use of two medications—buprenorphine/naloxone (Suboxone®) and extended release naltrexone (Vivitrol®)—which are offered under closely supervised care. These medications have been shown to improve the likelihood of abstinence from opioids, boost retention and engagement in treatment, reduce cravings for opioids, and lower relapse rates.[16] For more information, visit **HazeldenBettyFord.org/COR12**.

Professionals in Residence Program

Hazelden Betty Ford Foundation's Professionals in Residence Program teaches doctors and other health care professionals to recognize and assess substance abuse and dependence, including abuse of prescribed pain medications. For additional information, please visit **HazeldenBettyFord.org/PIR**.

QUESTIONS AND CONTROVERSIES

Why are programs using prescription drugs to treat opioid dependence? Isn't that part of the problem?

It is understandable for individuals seeking treatment to be suspicious of pharmaceutical solutions; however, modern medication-assisted therapies rely on non-habit-forming drugs such as buprenorphine and naltrexone. These drugs prevent the reward center activation effect that occurs when opioids are used, therefore reducing cravings and increasing the odds for successful recovery. Those who are uncomfortable with using MAT can rely on behavioral interventions, including Twelve Step programs and cognitive-behavioral therapy, that have been proven effective as treatments for opioid use disorders.

HOW TO USE THIS INFORMATION

Physicians: It is important to consider alternatives to opioid medications whenever possible. Educate yourself on common opioid abuse and dependence risk factors and develop a plan for referrals to opioid abuse treatment programs when you suspect a patient is developing dependence behaviors. Reduce the length of time patients use opioid medications as much as possible to avoid side effects for extended use and educate your patients on the dangers of using opioid medications for extended periods of time.

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been identified as being at higher risk of developing prescription opioid use disorders. In addition to higher rates of overall reported psychoactive drug use as compared to earlier generations,[4] baby boomers have a very high prevalence of chronic pain, one of the most common symptoms for which opioids are prescribed.[5] Research over the past decade has shown that, for older adults, opioid-related death rates have increased regularly since 2006, despite a decline in opioid-related deaths among younger adults since 2009.[5] Behavioral economists have also found that individuals who spend greater proportions of their income on prescription opioids are more likely to continue using them, even while receiving treatment for prescription opioid dependence.[6] Additionally, opioid abuse is correlated with substance use and abuse among family members, peers, and other members of an individual's social network, especially for teenage users.[7]

Prevention and Treatment

The rapid increases in rates of prescription opioid use disorders and opioid-related deaths across the country have led to large-scale responses aimed at prevention and awareness. In April 2011, the White House initiated a multiagency response to the opioid crisis, which included calls to action for legislative and educational interventions aimed at reducing prescription opioid use disorders and opioid-related deaths.[8] Scientific communities, particularly researchers in medical fields, have also made attempts to better understand and mediate the underlying causes of increased prescription opioid abuse. Research on prevention programs geared toward prescriber education have focused on alternatives to prescription opioids, guidance on identifying problem use behaviors and referring patients to substance abuse programs, and teaching prescribers how to conduct effective patient education on the risks associated with taking prescription opioids.[9,10] A number of community programs have also shown promise for prevention of opioid abuse among youths, especially when paired with a family participation component.[11]

Treatment for prescription opioid use disorders can include behavioral and pharmaceutical interventions. Research suggests cognitive-behavioral counseling and close monitoring may deter misuse of prescription opioids among those suffering from chronic pain. In a 2010 study, chronic pain patients were randomly assigned to a standard therapy control condition or an experimental condition where they received monthly urine screens, treatment compliance checks, and motivational counseling. After 6 months, patients in the experimental group were significantly less likely than the control group to self-report prescription opioid misuse and had significantly fewer abnormal urine toxicology results.[12] While it may seem counterintuitive to treat prescription drug abuse with another prescription drug, scientists have been researching alternatives to common opioid medications that reduce cravings and assist with treatment adherence for individuals who have become dependent on opioids. Opioid agnoists (drugs that can act as substitutes for opioids in the brain without the same chemical reaction) such as buprenorphine decrease cravings, reduce relapse rates, and generally improve treatment retention for individuals who are in opioid abuse programs.[13,14] Extended-release medications such as naltrexone block the reward center receptors in the brain where opioids would otherwise react, which prevents the psychological and physiological effects of opioid drugs and breaks the reward cycle of opioid dependence.[15]

Summary and Conclusion

The exponential increases in the rates of prescription opioid abuse and dependence in the past decade have been staggering. Increases in the rates of prescription, increased reports of abuse, and increases in opioid-related emergencies and deaths have all acted as catalysts for immediate action by government agencies, scientists, and clinicians. While education and prevention programs have shown initial promise in beginning to address this public health emergency, it is critical that individuals educate themselves on the risks of extended prescription opioid use, as well as remain knowledgeable about the early signs of abuse or addiction.

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The Butler Center for Research informs and improves recovery services and produces research that benefits the field of addiction treatment. We are dedicated to conducting clinical research, collaborating with external researchers, and communicating scientific findings.

Bethany Ranes, PhD,
Research Scientist

If you have questions, or would like to request copies of Research Update, please call 800-257-7800, ext. 4405, email ButlerResearch@HazeldenBettyFord.org, or write BC 4, P.O. Box 11, Center City, MN 55012-0011.

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Patients: If you are currently using opioid medication to treat a chronic disorder, talk to your physician about risk factors for addiction and discuss potential alternatives to opioid medication whenever possible. Assess your behavior regularly for signs of misuse or tolerance and seek help from a substance abuse treatment facility or counselor if you believe that you are showing signs of an opioid use disorder.

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