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Prescription Medications

This research summary provides a brief overview of prescription medications often misused by teens, their availability, their short-term and long-term effects, and the motivations and misperceptions teens have for using these substances.

Prescription medications "require a prescription from a doctor or dentist".[1] This research summary focuses specifically on the nonmedical use or misuse of prescription medications. The terms "nonmedical use" and "misuse" are used interchangeably and are defined as using a prescribed medication

- without a prescription written for yourself,
- in a way other than as directed by a physician (e.g., mixing with alcohol or other drugs), and
- for the feeling the drug causes (to get "high").[2]

How Are Prescription Medications Misused?

When a person uses someone else's prescription medication or uses their own prescription medication in a way that is not intended by their doctor or dentist, they are misusing the substance. Prescription medications can be misused by ingesting them orally (in their original form), crushing them into a powder and snorting through the nose, or dissolving them into a liquid and injecting intravenously.[2]

Misusing prescription medication can cause severe respiratory depression and place a person at risk of death.[3] Signs of opioid overdose include:

- Their face is extremely pale and/or feels clammy to the touch
- Their body goes limp
- Their fingernails or lips have a purple or blue color
- They start vomiting or making gurgling noises
- They cannot be awakened or are unable to speak
- Their breathing or heartbeat slows or stops."[3]

Because opioid overdose is life-threatening, immediate emergency medical attention is needed. Bystanders should call 911, begin CPR (if the person has stopped breathing or if breathing is very weak), and use naloxone to reverse opioid overdoes.[3] Naloxone is a medication that reverses overdose by temporarily reversing respiratory depression and is available as injectable or nasal spray.[2] It is available at many pharmacies in Montana; no prescription is needed, and it is often free. More information on overdose signs and naloxone is available at www.naloxone.mt.gov.

Misusing prescriptions may lead to the use of heroin and other drugs.[4,5] For example, those who misuse prescription medications, especially young people, may switch to heroin because heroin may be easier to obtain and at a lower price than prescription medications.[5,6] In one study of young adults, 83% of those who used nonmedical prescription opioids transitioned to heroin use generally within the first 4 years of misusing a prescription opioid for the first time.[4] Of the people who had transitioned to heroin, 64% transitioned to heroin injection within a year of first using heroin.[4] Results from this study also found that 92% of youth that had misused opioids had also misused benzodiazepines.[4] These results suggest that misusing prescription medications in the teenage years may lead to using drugs in ways that are increasingly risky (injecting them) and using other drugs.[4] Similarly, other research has found correlations between misuse of prescription medications and the use of other illicit drugs such as methamphetamine.[7] Additionally, illicit drugs are sometimes laced with fentanyl, a type of opioid that is dangerous and is associated with high risk of overdose.

What Are Commonly Misused Prescription Medications and Their Effects?

There are several studies exploring the nonmedical use of prescription drugs among teens. This paper discusses three common prescription drug classes that are often misused among teens: pain relievers, stimulants, and central nervous system depressants, which include both tranquilizers and sedatives.

Prescription Pain Relievers (Opioids)

Prescription pain relievers or opioids are often prescribed to reduce pain.[8] Opioids have a chemical makeup like the endorphins that our bodies make naturally.[9] Opioids include prescription medications such as oxycodone, morphine, codeine, methadone, hydrocodone, fentanyl, hydromorphone, meperidine, and diphenoxylate.[9] Common brand name prescription pain medications include Vicodin, OxyContin, and Percocet. Street names for these opioids include: Vikes, Oxy, and Percs.[2]

In an analysis of data from the Youth Risk Behavior Survey between 2009 – 2019, one in seven U.S. high school students reported misuse of prescription opioids at least once in their lifetime, and one in 14 students reported current prescription opioid misuse.[10] In Montana one in eight (13%) high school students reported having ever taken a prescription pain medication that was not prescribed to them or used it differently than how it was prescribed.[11]

Short-term effects of prescription opioids include pain relief, relaxation, euphoria, sleepiness, constipation, nausea, and slowed breathing.[2,9] Commonly identified reasons for misusing prescription pain medications are often aligned with the therapeutic indications for the substance such as to relieve physical pain, but other motivations such as getting high, feeling good, and relieving tension may also be motivating the nonmedical use of prescription medications.[8,12]

Severe withdrawal symptoms such as sleep problems, diarrhea and vomiting, cold flashes, and pain can occur when a person stops using prescription opioids.[9] The symptoms of withdrawal can be extremely difficult to endure and can make it hard for a person to stop using opioids.[9] Using prescription opioids for a longer period can lead a person to develop tolerance, which means that the person needs to use more of the drug or use the drug more frequently to get the desired effects.[9] Tolerance can lead to dependence and the development of an opioid use disorder.[9] Fortunately, there are a variety of treatments to help people stop using prescription opioids including behavioral therapies and medications such as buprenorphine, methadone, and naltrexone.[9]

Prescription Stimulants

Prescription stimulants are usually prescribed "to treat attention-deficit/hyperactivity disorder (ADHD), to reduce or control weight, or to promote wakefulness because of sleepiness associated with conditions such as narcolepsy or sleep apnea".[8] Prescription stimulants include medications such as Adderall, Ritalin, Methedrine, and Methylphenidate.[8,12] Bennies, black beauties, and uppers are common street names for Adderall.[13] Diet coke, kiddie coke, study buddies, and R-Pop are common names for Methylphenidate (Concerta and Ritalin).[14]

Prescription stimulants can have short-term effects such as increased body temperature, heart rate, attention, wakefulness, and energy, and can cause feelings of paranoia.[1] Common motives for using prescription stimulates include recreational use (to get high), experimentation, and academic performance (to aid in studying and increase alertness).[15] Like prescription opioids, the long-term use of prescription stimulants can lead to tolerance and the development of a substance use disorder.[2]

Central Nervous System Depressants (Tranquilizers and Sedatives)

Commonly misused central nervous system depressants include tranquilizers and sedatives. Prescription tranquilizers are commonly prescribed for anxiety and to treat muscle spasms.[8] Benzodiazepines include Xanax, Valium, Ativan, and Klonopin, which are used to treat anxiety.[8,12] Common street names for benzodiazepines include names like benzos, nerve pills, and tranks.[13] Soma and Flexeril are muscle relaxants used to treat muscle spasms.[8,12] Prescription sedatives are usually prescribed for sleep disorders such as insomnia.[8] Prescription sedatives include Ambien, Lunesta, and Sonata[1]. Street names that are common for prescription sedatives include tic-tacs, forget-me pills, looney bar, and zombie flip.[14]

Short-term effects of central nervous system depressants include slowed breathing, sleepiness, disorientation, lack of coordination, light-headedness, dizziness, and slurred speech.[1,16] In the longer term, taking central nervous system depressants can result in dependence and withdrawal if a person stops using them. Some of the withdrawal symptoms include seizures, shakiness, anxiety, insomnia, severe cravings, and agitation.[16] If a person has developed dependence on a central nervous system depressant, they should not stop taking the medication without medical help as withdrawal from these drugs can be severe and potentially life-threatening.[16]

Prescription Availability and Teen Misperceptions

Prescription medications are widely available in the U.S. In 2018 alone, more than 49,000,000 million people (15% of the population) filled at least one prescription for an opioid in the U.S..[17] This number is concerning as the misuse of prescription medications usually occurs after a legitimate prescription is used.[18,19] For example, in one study, using a prescribed opioid medicine before high school graduation was associated with a 33% increase in the risk of future opioid misuse after high school.[20] Reducing availability is an important strategy for reducing teen nonmedical use of prescription medications. The good news is that in Montana, the overall opioid prescription rate between 2014-2019 decreased by 14%.[21]

Wide availability of prescription medications can make obtaining prescription medications easier for teens. It is common for teens to get prescription medications from their friends and relatives.[22] It is also common to get prescription medications from a physician or dentist.[22] In one study, it was found that over one-third of teens who reported the nonmedical use of prescription medication used leftover medications from their own previous prescriptions.[19] It is much less common to obtain prescription medications by stealing them or buying them from a drug dealer or someone they don't know.[22]

Wide availability may be contributing to misperceptions teens have about using prescription medications. Some teens underestimate the dangers of misusing prescription medications and may believe that the nonmedical use of prescription medications is safer than using other drugs.[3,23] However, research shows the nonmedical use of prescription medications is associated with multiple negative health outcomes and risky behaviors including use of other drugs and alcohol, suicidal ideation, violence, and increased risky sexual behaviors.[10,12,24] The misuse of prescription medication can alter normal adolescent brain development, lead to the development of a substance use disorder, lower academic performance, and increase the likelihood of dropping out of school.[10,12,24]

ParentingMontana.org was supported [in part] by CFDA 93.959 and 93.243 from the Substance Abuse and Mental Health Services Administration (SAMHSA), and by the Preschool Development Grant Birth through Five Initiative (PDG B-5), Grant Number 90TP0026-01-00, from the Office of Child Care, Administration for Children and Families, U.S. Department of Health and Human Services, and by the Montana State General Fund. The views and opinions contained do not necessarily reflect those of SAMHSA, the U.S. Department of Health and Human Services, or the Montana Department of Health and Human Services, and should not be construed as such.

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