Prescription drug abuse: From bad to worse

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Target Audience
Clinicians in community-based practice.

Program Goal
To improve the advanced practice clinician's awareness of trends related to prescription drug abuse and steps to take to help reduce the potential for prescription drug abuse.

Learning Objectives
Upon completion of this program, the advanced practice clinician should be able to:

1. Define and identify trends in prescription drug abuse.
2. List prescription medications that may commonly be drugs of abuse.
3. Recall the dangers of nonmedical use of prescription drugs.
4. Distinguish potential behaviors or methods that may characterize drug abusers or drug-seeking patients.
5. Describe steps the advanced practice clinician can take to help increase awareness of and reduce the potential for prescription drug abuse.

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INTRODUCTION

Over the past decade there has been a decrease, albeit small, in the use of illicit drugs — such as cocaine, methamphetamine and ecstasy, although the latter appears to be on the rise again — in the United States. Unfortunately, that gap has been filled by the misuse and abuse of prescription drugs, especially psychotherapeutics, including opioid pain relievers, tranquilizers, stimulants and sedatives. Indeed, prescription drug abuse is at epidemic proportions in this country. In fact, there are many who now believe it has escalated beyond an epidemic to a public health crisis — and for good reason.

Prescription drug abuse has been shown to be associated with increased morbidity and mortality in the population at large. Although the vast majority of people take prescription medications responsibly, an estimated 52 million people, or 20%, of those ages 12 years and older have used prescription drugs for nonmedical reasons at least once in their lifetimes.[1] Furthermore, despite increasing public and healthcare system awareness of the problem over the past few years, it still is growing at an alarming rate. Worse, the number of deaths associated with unintentional overdoses from prescription drugs have increased roughly fivefold since 1990, and now are second only to motor vehicle crash deaths among leading causes of unintentional injury death in 2007 in the United States.

According to the Centers for Disease Control and Prevention, we also currently are in the midst of the worst overdose epidemic in the United States in more than four decades.[2] Advanced practice clinicians can play an important role in raising awareness of trends related to prescription drug abuse, as well as proper patient assessment, appropriate drug selection, patient education, responsible monitoring and record keeping, and protecting against the potential for theft or alteration of prescriptions.

DEFINING PRESCRIPTION DRUG ABUSE

The most widely used working definition of prescription drug abuse is the intentional use of a medication without a prescription or in a way other than as it was prescribed.[3] Prescription drug abuse also can be considered when using therapeutic drugs, in particular those with psychoactive properties, purposely for the experience or feelings the medication can produce — often for recreation or escape. The terms "prescription drug abuse" and "nonmedical use" often are used interchangeably and are based on the definitions used by most national surveys measuring nonmedical use of prescription drugs.

It is important to point out that the definition above significantly differs from the definition of substance abuse/dependence listed in the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, or DSM-IV. According to the DSM-IV, "drug" — or substance — abuse occurs when there is a maladaptive pattern with recurrent and significant adverse effects, such as failing to fulfill major role obligations, legal problems, physically hazardous use and interpersonal problems.[4] While it is reasonable to assume that the continued nonmedical use of certain prescription drugs could lead to a pathological substance abuse disorder in some individuals, prescription drug abuse can occur apart from pathological substance abuse and addiction. Such might be the case for the occasional recreational user.

Another term that sometimes is thrown into the mix is "prescription drug misuse." This has been defined as the *unintentional* use of a medication in a manner other than how it was prescribed.[3] There are a number of scenarios as to why a patient might misuse prescription drugs. These might include taking too high a dose or too frequent doses due to the patient's inability to read or understand dosing directions, cognitive decline or complicated drug regimens. Misuse also might be taking someone else's medications even if used as normally intended — for example, taking another family member or friend's prescription painkiller for acute pain. It is possible that frequent misuse of certain psychotherapeutic medications can lead to prescription drug abuse over time. At the very least, unintentional use, or misuse, of prescription psychotherapeutics by some patients could lead to more severe health consequences. It also should be noted that the use of alcohol with drugs that warn against its concurrent use (e.g., central nervous system, or CNS, depressants) is considered "misuse."

Finally, prescription drug addiction is considered a chronic, neurobiologic disease characterized by impaired control over drug use, compulsive use, continued use despite harm and cravings.[5] There are many dynamics involved in the development of addiction, including genetics, environment, psychosocial factors and more. Generally, only a small fraction of individuals who misuse or abuse prescription drugs will get to the point of drug addiction.

WHAT DRUGS ARE BEING ABUSED?

According to the "National Survey on Drug Use and Health," or NSDUH, in 2010, approximately 7 million people were current users of psychotherapeutic drugs taken nonmedically (2.7% of the U.S. population). The 2010 estimate was similar to 2009 data, but was up 13% from 6.2 million in 2008. The four classes of prescription drugs, collectively referred to as "psychotherapeutic agents," that were the most widely abused were opioid analgesics (5.1 million), tranquilizers (2.2 million), stimulants (1.1 million) and sedatives (0.4 million).[6] Most of the current literature on prescription drug abuse focuses on the opioids — or "prescription pain relievers," as they often are called in the lay press. This is likely due to the fact that they account for about three-quarters of the total of prescription drugs abused, and they may be more likely to produce morbidity and mortality.

Another alarming statistic, according to the 2009 NSDUH, is that 2.4 million Americans used prescription drugs nonmedically for the first time that year, which averages to approximately 6,600 initiates per day.[7] To give that perspective, by the time you are finished with this continuing education activity, estimates indicate more than 550 people in this country will have taken an opioid, stimulant or anxiolytic/sedative nonmedically for the first time. About 175 of them will be between the ages of 12 and 17 years. One rather ironic finding in that survey was that nearly one-third of first-time drug abusers (illicit or prescription) initiated with psychotherapeutics. Who would have thought that prescription drugs would someday become "gateway drugs?"

Opioids are the most commonly abused class of prescription drugs. Among the opioids, those most commonly abused include hydrocodone (Vicodin® or Lortab®) and oxycodone (OxyContin®). Significant abuse of hydromorphone (Dilaudid®), methadone, meperidine (Demerol®), propoxyphene (Darvon®) and diphenoxylate (Lomotil®) also are reported. The increased use of opioids has led to increased street prices for the drugs. The price of hydrocodone (Vicodin®) ranges from $2 to $10 per tablet on the street, making the 1,000-count bottle on the pharmacy shelf worth up to $10,000. The consumption of hydrocodone has been widely publicized within the United States, with 2004 data indicating that the United States consumed 99% of the world's hydrocodone supply despite representing only 4.5% of the world's population.[8] The abuse of oxycodone (OxyContin®) also is well-documented and has acquired notoriety for a high similar to morphine — often referred to as the "hillbilly heroin." In addition to the abuse of individual prescription drugs, such as hydrocodone and oxycodone, abuse trends show increasing popularity of "cocktails" of various prescription drugs, including controlled substances.[9-12]

While the dangers of opioids are well known, prescription stimulants also are increasingly being abused for nonmedical conditions or situations (e.g., to get high or as a cognitive enhancer), which poses its own set of potential health risks, including addiction, cardiovascular events and psychosis.[13] The most commonly abused stimulants include methylphenidate (Ritalin® and Concerta®) and amphetamines (Adderall®). Recent reports show a staggering increase in abuse of methylphenidate and other attention deficit hyperactivity disorder medications for "performance-enhancing" effects among students believing that the use will increase grade point averages and test scores.[14] Additional information on prescription drugs of abuse — including street names, the intended intoxication effects and potential health consequences — is available through the National Institute on Drug Abuse.[15]

Among the depressants, benzodiazepines are by far the most commonly abused drugs, including diazepam (Valium®) and alprazolam (Xanax®). Barbiturates, such as pentobarbital sodium (Nembutal®), also are commonly abused depressants.[15] A new national study showed that from 1998 to 2008 — the most recent year with available figures — substance abuse treatment admissions among those 12 years and older related to the abuse of benzodiazepine drugs rose from 22,400 in 1998 to approximately 60,200 in 2008.[16] The report showed that while benzodiazepine-related admissions represented only 3.2% of all substance abuse admissions among this population in 2008, it had grown from the 1.3% it represented in 1998.[16] The vast majority of benzodiazepine-related admissions involved the abuse of another substance (95%), and in 82.1% of these cases, benzodiazepines were the secondary drug of abuse.[16]

Over-the-counter medications also are commonly abused, including cough-cold products containing dextromethorphan.[17] The abuse of products containing dextromethorphan remains popular with adolescents as they consume large quantities to obtain a high. Because this CE focuses on the abuse and diversion of prescription drugs, advanced practice clinicians interested in learning more about the abuse of OTC drugs, especially by adolescents, are directed to the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration, or SAMHSA, website: SAMHSA.gov.[18]

DEMOGRAPHICS RELATED TO PRESCRIPTION DRUG ABUSE

Prescription drug abuse is an equal-opportunity epidemic. It can occur with anyone, regardless of age, gender, race or ethnicity, health status and more. Certain subpopulations, however, may be more likely to engage in the practice.

Adolescents and young adults ("Generation Rx")

The age group most likely to abuse prescription drugs is adolescents and young adults. There are plenty of factors that play a role in experimenting with mind-altering substances, whether it's alcohol, illicit or prescription drugs, including curiosity, thrill-seeking, peer pressure, life stressors and lack of perspective regarding mortality. As it turns out, prescription psychotherapeutics just happen to be the "substance du jour" for this generation.[19]

A number of reports have shown that the abuse of prescription drugs — especially opiates, stimulants and sedatives — has reached alarming proportions, particularly among teenagers.[7,20] Overall, the prevalence of having ever taken prescription drugs without a doctor's prescription was highest among white (23%), Hispanic (17.2%) and black (11.8%) students.[21] There even are more alarming statistics regarding teens, including that 1-in-7 teens admitted to abusing prescription drugs to get high in the past year.[22] Sixty percent of teens who abused prescription pain relievers did so before the age of 15 years.[22] Fifty-six percent of teens believe that prescription drugs are easier to get than illicit drugs.[22] Furthermore, teens believe that there is less shame attached to using these drugs (33%) and that their parents would not be as concerned if they got caught (21%).[23] This mirrors the perception among parents that prescription drug abuse is a safer alternative to street drug use.

Moreover, according to the "Monitoring the Future" survey, prescription and over-the-counter drugs comprised 50% (7-of-14) categories of drugs abused by 12th-graders in 2011, with prescription opioids and amphetamines ranking second and third after marijuana.[24]

Less attention has focused on the degree that benzodiazepines are abused as a primary drug of choice; however, approximately 10% of teens initiated their prescription drug abuse with anxiolytics/sedatives.[7] Among adolescents, marijuana was by far the most frequently reported primary substance of abuse used with benzodiazepines.[16]

Gender

In an analysis of a 2005 national survey on drug use and health designed to determine if gender affected drug use, abuse and dependence, the authors found that overall rates of substance use were significantly higher for males than for females for all substances except sedatives and tranquilizers. This was similar to the findings in the 2009 survey. Patterns for youths (ages 12 to 17 years), however,

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differed from the overall population and from young adults. While boys reported significantly greater use of, abuse of and dependence on marijuana in that age bracket, younger girls (ages 12 to 17 years) exceeded boys in their nonmedical use of psychotherapeutics.[25]

In another study, instead of looking at hard numbers regarding gender differences, researchers instead examined the reasons and motivations for misuse and abuse of prescription medications by gender. Interestingly, their analysis showed that drug misuse by women is motivated more by emotional issues and psychological distress, while in men this behavior usually stems from problematic social and behavioral problems.[26]

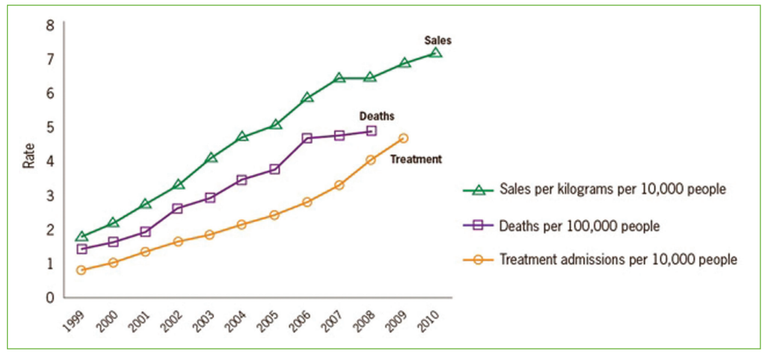
Elderly

While the elderly may not be the largest demographic in the prescription drug abuse arena, people ages 65 years and older account for more than one-third of total outpatient spending on prescription medications in the United States.[27] There are a number of factors at play here. The elderly often have multiple medical issues and may have multiple prescribers, which can lead to overlapping or redundant prescriptions. Furthermore, there often is a higher incidence of chronic pain in this population when opioids may be used. In many cases, prescription drug abuse in this population may start out as prescription drug misuse. As stated earlier, misuse may arise from a combination of the patient's inability to read or understand dosing directions, cognitive decline that comes with aging and/or complicated drug-taking regimens (e.g., "Was that four pills two times per day or two pills four times per day?"). Other factors that may inadvertently contribute to the process include: 1) rationalization and denial among family members, peers or care providers (e.g., "They're old, and they're in pain; it's OK"); 2) abuse can be masked by the myth that drug — not alcohol — addiction is a disease of the young; or 3) the symptoms of drug abuse, such as forgetfulness, irritability, increased stumbling or falls, may be dismissed as the person "just getting old." Regardless of whether or not misuse becomes abuse, the high rates of co-morbid illnesses in older populations, age-related changes in drug metabolism and the potential for drug interactions may make any of these practices more dangerous than in younger populations.

Co-morbid mental health conditions

According to the Substance Abuse and Mental Health Services Administration, more than 8.9 million people in the United States have co-occurring or co-morbid disorders; that is, they have both a mental or psychiatric disorder and a substance use disorder.[28] With easier access to and greater availability of psychotherapeutic drugs, it stands to reason that this population also may be at higher risk for prescription drug abuse. Indeed, most drugs of abuse, whether illicit or prescription, affect brain regions and/or have mechanisms of action similar to those we use therapeutically for treating psychiatric disorders. It's the "chemical imbalance" concept and therein lies the rationale for self-administration. People will find the substance or substances that make them feel good or feel better, that either correct or mask the "chemical imbalance." Unfortunately, when undertaken without the guidance and monitoring of a healthcare professional, it can rapidly become a downward spiral.

Figure 1
Rates of prescription painkiller sales, deaths and substance abuse treatment admissions (1999-2010)



Source: National Vital Statistics System, 1999-2008; Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 1999-2010; Treatment Episode Data Set, 1999-2009

WHY HAS THERE BEEN AN INCREASE IN PRESCRIPTION DRUG ABUSE?

There are four interrelated components that play into the prescription drug abuse process: availability of the drug, characteristics of the drug, patient factors and prescriber behaviors.[29]

Drug availability

In many regards, the prescription drug abuse issue comes down to the basic economic principles of supply and demand. Let's start with the demand side. Essentially there are three things that occurred over the past decade that may be responsible for increased demand. Remember that about 10 years ago, methamphetamine and 3,4-methylenedioxymethamphetamine (i.e., MDMA or ecstasy) were among the hottest drugs for recreational use or abuse. First, MDMA primarily was manufactured in Europe and exported to the United States. Following 9/11, with an increase in surveillance on imports, that avenue dried up for a while. Second, establishing tighter regulations on the "starting" materials for synthesizing methamphetamine — namely limits on pseudoephedrine purchases and the removal of phenylpropanolamine from the market — led to diminished "meth" availability. The third possible factor that was occurring simultaneously and may have played a role in increasing demand was a change in health care's view of managing pain, sleep and behavioral/learning disorders. In particular, we adopted a more aggressive, yet appropriate, approach to treating pain in this country, as well as insomnia, ADHD and others. With that has come a greater demand for psychotherapeutic agents and a disproportionate increase in the availability of these drugs in the supply chain. This also has led to increased diversion into the hands of abusers.

Regarding the supply side, production quotas for prescription opioids and stimulants have risen steadily for the past two decades, as has the number of prescriptions written for those drugs. Prescriptions dispensed for opioids have increased threefold in the last two decades, while those for stimulants have increased more than tenfold. It stands to reason that the more "pills" available in the home, the greater the potential for misuse or abuse by either the patient or others who have access to those medications. To give this some real-world perspective, according to the IMS Institute for Healthcare Informatics, 131 million prescriptions for hydrocodone were dispensed in 2010.[30] If one assumes conservatively 30 tablets per prescription, that represents roughly 4 billion tablets that were out in circulation in 2010. And that's just of hydrocodone.

Figure 1 shows a direct correlation between the availability of prescription opioids and two markers of abuse: overdose deaths and substance abuse treatment admissions.[31]

Once drugs are out of the pharmacy and into the home medicine cabinet or kitchen drawer, it becomes a free-for-all. Anyone has access to them: spouses, children, friends, relatives and visitors. In fact, 40% of 12th-graders reported that painkillers were "fairly" or "very" easy to get, and more than half said the same thing for stimulants.[32]

Drug characteristics

Obviously, a particular drug's characteristics play a major role in its potential for abuse. Those that have the potential to be "rewarding" (i.e., feel good, feel better) are those that enhance dopaminergic transmission in specific regions of the brain (i.e., nucleus accumbens) or those that produce "disinhibition" through enhancement of the inhibitory neurotransmitter gamma-amino butyric acid, or GABA.[33,34] Those that affect dopamine include the opioids and the stimulants, and generally fall into Drug Enforcement Administration schedules II or III, while the anxiolytics and sedatives (i.e., benzodiazepines and z-hypnotics) affect GABA and fall into schedule IV.[35] A key pharmacological consideration about drugs of abuse is that while the concentration, or how much of the drug gets into the brain, may be important, it is how fast it gets there that correlates with increased abuse potential — the faster, the better. This is why route of administration plays a role in the abuse potential of any individual drug (intravenous > smoked ≥ inhaled > immediate release > slow release). Drugs that can be crushed and/or made soluble and administered by a faster route have greater potential for abuse. Therein lies the rationale for producing "tamper-resistant" drugs. However, "tamper-resistant" does not equate with "abuse-resistant;" they still can be taken orally in higher-than-prescribed doses, although they are less likely to be altered to produce a greater "drug-rewarding" experience.[36]

Patient characteristics

There basically are two types of prescription drug abusers: those who obtain drugs directly from the healthcare system — prescriber to pharmacy — for their own personal use or to sell to others for financial gain, and those who obtain them secondarily from the prescription recipient. The former uses various methods, including doctor shopping, forging or stealing prescriptions, or feigning legitimate illness (e.g., sports injuries or anxiety) to obtain their drugs. Those that obtain drugs secondarily typically get access to the drugs by requesting, buying or stealing drugs that already are in the hands of a patient and outside the control of the pharmacy. Table 1 outlines additional methods that may be used to obtain prescription drugs for purposes of abuse. For example, nearly two-thirds (64%) of teenagers who have abused prescription drugs reported receiving, buying or stealing them from friends or relatives; almost half (46%) said they got prescription pain relievers for free from a relative or friend; another 9% said they bought pain relievers from a friend or relative, while 5% took the drugs without asking.[32] Again, the reasons for the nonmedical use of prescription drugs vary with the individual and can range from the use of the drugs for occasional recreational purposes to dependence, substance abuse disorder or addiction.

Table 1
Various methods that may be used to obtain prescription drugs for purposes of abuse[22]

- "Doctor shopping" (i.e., seeing more than one physician for the same prescription)
- Receiving drugs from friends or relatives
- Forged, stolen or counterfeit prescriptions
- Acquiring prescription drugs via the Internet without a physician visit
- Buying drugs from patients leaving clinics
- Feigning legitimate illness (e.g., sports injuries, anxiety) to obtain a prescription
- Purchasing from a drug dealer
- Theft from pharmacies or homes, including family members taking someone else's drugs from a medicine cabinet

Prescriber characteristics

Prescribers can have a significant influence with regard to prescribing controlled substances — in particular, pain relievers. For example, an advanced practice clinician who is uncomfortable with prescribing opioids due to personal biases, inadequate training or the regulatory burden associated with these prescriptions, may not treat or may under-treat a legitimate pain patient.[37] This can increase the possibility that the patient will seek an additional, or multiple, provider(s) or seek out nonmedical sources for opioids in order to self-medicate their pain. Conversely, a clinician may appropriately treat pain with aggressive use of opioids; but in turn, this places more opioids into circulation, with a greater possibility for diversion or a greater risk for the patient to develop dependency and further abuse. Indeed, over the past decade, in an attempt to better treat patient pain, providers have dramatically increased their rate of opioid prescribing for pain-related visits. Unfortunately, patients who abuse opioids have learned how to exploit this new sensitivity. There also is a third scenario that has become recognized. Where there is a demand and money involved, there is the potential for indiscriminate prescribing of controlled substances. Not to diminish the legitimate benefits of "pain clinics," but the for-profit pain clinic, or "pill mill," phenomenon has exploded over the last three or four years as more providers recognized there is big money to be made in what has been an unregulated industry.[38] The issue generally had been overlooked until recently as states begin to craft laws that toughen oversight of pain clinics and who operates them.

DANGERS OF PRESCRIPTION DRUG ABUSE

As stated in the introduction, the number of deaths associated with unintentional overdoses from prescription drugs have increased roughly fivefold since 1990 and now are second only to motor vehicle crash deaths among leading causes of unintentional injury death in 2007 in the United States.[39,40]

In 2007, there were 27,658 unintentional drug overdose deaths.[39] That translates into one death every 19 minutes. Again, to put that into perspective, in the time it takes to complete this CE activity, about six people will have died from an unintentional drug overdose. It is important to recognize that the 27,658 overdose deaths represent the total of both prescription drugs and illicit drugs like heroin and cocaine.

The number of deaths that can be attributed directly to prescription opioid analgesics in 2007 was approximately 12,000, which still is more than the combined total of heroin and cocaine deaths. In fact, the number of deaths involving opioid analgesics was 1.9 times the number involving cocaine, and 5.4 times the number involving heroin.[40] More recent data from 2008 reported that prescription painkiller overdoses killed nearly 15,000 people, suggesting that the problem is getting worse.[39]

While the mortality data is dramatic, it does not portray the even greater morbidity associated with prescription drug abuse and overdoses. For every overdose death due to opioid analgesics, the problem is multiplied by other incidents that burden the public health system. In that regard, it has been suggested that for every overdose-related death from opioids, there are nine abuse treatment admissions, 35 emergency department visits for abuse or misuse, and 161 people who suffer from abuse/dependence.[2]

Treatment data from emergency department visits can highlight this morbidity and can be accessed more quickly than mortality data. As it turns out, ED visits for the nonmedical use of prescription and over-the-counter drugs now are comparable to ED visits for use of illicit drugs like heroin and cocaine.[40]

A 2010 report from SAMHSA's Drug Abuse Warning Network showed that the estimated number of ED visits for nonmedical use of opioid analgesics increased 111% from 2004 to 2008 (from 144,600 to 305,900 visits), with the biggest increase (29%) occurring during the most recent year, 2007-2008.[41] The highest numbers of ED visits were recorded for oxycodone, hydrocodone and methadone, all of which showed statistically significant increases during the five-year period. The estimated number of ED visits involving nonmedical use of benzodiazepines increased 89% during the same five years (from 143,500 to 271,700 visits) and again more dramatically (23%) in the most recent year of the analysis. Notably, results from 2008 indicated that in addition to the large increase in visits compared with 2004, peak visit rates for both opioids and benzodiazepines appear to have shifted into the

younger age groups (i.e., 21 to 24 years from 30 to 34 years for opioids, and 25 to 29 years from 35 to 44 years for benzodiazepines).

Beyond the mortality data, these findings indicate substantial, increasing morbidity and shifting use patterns associated with the nonmedical use of prescription drugs in the United States, despite recent efforts to control the problem. Stronger measures to reduce the diversion of prescription drugs to nonmedical purposes are warranted.

THE ADVANCED PRACTICE CLINICIAN'S ROLE IN DRUG ABUSE PREVENTION

Advanced practice clinicians who can write a prescription for controlled medications, such as those discussed in this lesson, have a professional, personal, legal and societal responsibility to try to prevent the abuse and diversion of such drugs.[42] Prescribers' responsibilities are further outlined in Table 2. Within this framework, this responsibility would, at minimum, include proper and adequate patient assessment; appropriate drug selection; educating the patient, as well as selected individuals "in-the-loop," such as family members; and communicating with other health professionals where appropriate. Additionally, the prescriber needs to continually monitor the patient's response to treatment, as well as maintain clear and accurate records and protect against the potential for theft or alteration of prescriptions.[43] Although much of the literature pertaining to reducing prescription drug abuse is focused on opioid analgesics, all of these principles hold true for prescribing psychotherapeutics in general, such as stimulants, tranquilizers and sedatives.

Table 2
Prescribers' responsibilities[42]

- Clinicians have a legal and ethical responsibility to uphold the law and to help protect society from drug abuse.
- Clinicians have a professional responsibility to prescribe controlled substances appropriately, guarding against abuse while ensuring that patients have medication available when they need it.
- Clinicians have a personal responsibility to protect their practice from becoming an easy target for drug diversion. Clinicians must become aware of the potential situations where drug diversion can occur and safeguards that can be enacted to prevent this diversion.

Table 3
Common characteristics of the drug abuser[42]

- Unusual behavior in the waiting room
- Assertive personality, often demanding immediate action
- Unusual appearance — extremes of either slovenliness or being over-dressed
- May show unusual knowledge of controlled substances and/or gives medical history with textbook symptoms **OR** may give evasive or vague answers to questions regarding medical history
- Reluctant or unwilling to provide reference information. Usually has no regular doctor and often no health insurance
- Often will request a specific controlled drug and is reluctant to try a different drug
- Generally has no interest in diagnosis — fails to keep appointments for further diagnostic tests or refuses to see another practitioner for consultation
- May exaggerate medical problems and/or simulate symptoms
- May exhibit mood disturbances, suicidal thoughts, lack of impulse control, thought disorders and/or sexual dysfunction
- Cutaneous signs of drug abuse — skin tracks and related scars on the neck, axilla, forearm, wrist, foot and ankle. Such marks usually are multiple, hyper-pigmented and linear. New lesions may be inflamed. Shows signs of "pop" scars from subcutaneous injections.

Patient assessment

With respect to patient assessment, when done properly and thoroughly, a comprehensive assessment can help prescribers identify patients who might be seeking prescriptions for recreational, self-treatment or other nonmedical drug-taking behavior. Table 3 outlines common characteristics of the drug abuser, while Table 4 highlights common behaviors and methods used by drug-seeking patients.[42] As discussed earlier, risk of prescription drug misuse and abuse varies from one individual to another; however, certain demographics are known to have higher risk, including adolescents and young adults, patients with existing mental disorders and chronic pain patients.[44-46] A thorough history may shed some light on a patient's current and past substance misuse and abuse of alcohol, illicit drugs or prescription medications. This is where maintaining accurate notes and records on patients helps. Obviously, new patients may require greater scrutiny and the advanced practice clinician should strive to determine who provided medical care in the past, including the types of drug(s) that were prescribed, and for what conditions or indications. One place to turn is prescription drug monitoring programs, or PDMPs. Both national and local PDMPs have been formed (see page 6) to help detect suspicious patterns of drug use, particularly controlled-substance use.[47] Where these programs exist, they may be useful for identifying other providers who have or still are prescribing for that patient, as well as patient histories of filling certain prescriptions. Medical records from current or past providers should be sought and reviewed — after obtaining patient consent — if reasonable, before controlled medications are prescribed.

Table 4
Behaviors and methods often used by drug-seeking patients[42]

- Must be seen right away
- Wants an appointment toward end of office hours
- Calls or comes in after regular hours
- States he/she is traveling through town, visiting friends or relatives (not a permanent resident)
- Feigns physical problems, such as abdominal or back pain, kidney stone or migraine headache in an effort to obtain narcotic drugs
- Feigns psychological problems — such as anxiety, insomnia, fatigue or depression — in an effort to obtain stimulants or depressants
- States that specific non-narcotic analgesics do not work or that he/she is allergic to them
- Contends to be a patient of a practitioner who currently is unavailable or will not give the name of a primary or reference physician
- States that a prescription has been lost or stolen and needs replacing
- Deceives the practitioner, such as by requesting refills more often than originally prescribed
- Pressures the practitioner by eliciting sympathy or guilt or by direct threats
- Uses a child or an elderly person when seeking methylphenidate or pain medication

Communicating with the patient

The informed consent process can be a useful tool for educating patients on the risks and benefits of drug therapy with controlled medications.[48] Establishing realistic expectations for therapy is critical and may help reduce a patient's drive to "self-medicate" beyond the treatment plan. The NP should recognize, and patients should be guided to understand, that restoration of function is the goal, rather than complete relief of symptoms when using many medications, including controlled drugs. Additionally, such discussions should include a review of the potential risks for drug misuse and abuse. Issues that should be addressed include ethical and legal obligations for the patient and advanced practice clinician; the potential for drug-related cognitive impairment and/or physical injury; adverse effects caused by interactions with other drugs, including alcohol; and the risk of accidental overdose. Additionally, for women of child-bearing age, it is imperative to review the implications of becoming pregnant while taking selected controlled substances and the adverse effects that can cause obstetrical complications, as well as detrimental effects on the fetus with in utero exposure.[49]

Patients also should be informed at the time a controlled drug is prescribed that it is illegal to sell, give away or otherwise share the medication with others, including family members. Furthermore, talking with patients about the safe storage and disposal of medications should be part of the overall plan to help prevent use or diversion by others in the household. A good resource for information regarding disposal is the local pharmacist. Advanced practice clinicians may be able to direct a patient to prescription take-back events in their community or mail-back programs. If such take-back methods are not available, patients should be instructed to follow any disposal instructions on the medication label and not to flush the medications down the toilet unless the patient information instructs them to. If patients aren't able to use a take-back method, advise them to remove the drugs from their original containers; crush them and mix them with an undesirable substance, such as coffee grounds or kitty litter; and then put them in a sealable bag or can. This will help make them less desirable to children, teens, pets or those trying to obtain drugs for the purpose of misuse or abuse.[50,51]

Another area where the advanced practice clinician can play an important role is in educating parents about prescription drug abuse in school-aged children. Alerting them to the high prevalence of teenage prescription drug abuse and to keeping better tabs on medications in the home is a start. Teaching parents the signs of intoxication with psychotherapeutic medications, as well as the side effects that may arise from frequent use (i.e., constipation from opioids, irritability or insomnia from stimulants), also may be helpful in identifying and averting chronic abuse and its sequalae in the teen population.

Drug contracts and treatment agreements

A growing number of primary care clinicians have taken to using the written treatment agreements that have been widely used in the past in pain specialty practices. These agreements, or "drug contracts," spell out the obligations of both the provider and patient when prescribing and using controlled drugs.[52,53] The use of opioid agreements is endorsed by the Federation of State Medical Boards and is written into code in most state pain management policies. The language of these agreements may come across as accusatorial, mistrustful and confrontational by both patients and primary care providers; however, rather than a punitive, accusing document, the agreement simply can outline the pain problem, the medicine, dosage, number of pills, refill interval and how much time is needed for refills to be done. Other language can be added, adapted, written in later and adjusted according to the patient, refer to Table 5. Although time-consuming and uncomfortable, primary care should include these agreements, and clinicians can add this needed option to their treatment plans.[54]

Table 5
Suggested provisions of drug contracts[48]

- Agreement to obtain prescriptions for a class of controlled medication from only one clinician and, preferably, from one designated pharmacy. Identifying the specified pharmacy in the document is helpful.
- Agreement to take the medication only as prescribed, with options provided that allow the patient to make some adjustments in response to changes in symptoms.
- Acknowledgment that patients are responsible for arranging refills during regular office hours. They must plan ahead and not require medication refills during weekends or clinician vacation periods.
- Agreement that the patient will stop taking all other controlled medications of that type, unless explicitly told to continue them.
- Agreement that violation of the terms of the agreement may result in discontinuation of the controlled medication.

Prescriptions

The proper and accurate writing of individual prescriptions, as well as "protecting" the prescription pad from theft is critical. Any prescriber should treat prescription pads as they would their own personal checkbook, including keeping prescription pads in their possession when they actively are using them, not leaving them "unattended" and storing surplus pads in a locked drawer, safe or other appropriate area. It also is essential to report any prescription pad theft to local pharmacies, as well as the State Board of Pharmacy.[55]

Although there are opposing views on the subject, it is recommended that advanced practice clinicians should not preprint DEA numbers on forms in order to make it more difficult for stolen forms to be used. Ideally, prescription forms should be made tamper-resistant — that is, printed on paper that shows any erasures or ink removers. As with all prescriptions, clear writing is essential. Spelling out the quantity to be dispensed, in addition to the numeric figure, may limit tampering. The prescription order should specify both the milligram dose along with the volume of solution to be taken at any given time for oral liquids, and should specify the concentration to be used. Regardless, forgers often begin with a legitimate prescription order, which can be either photocopied and altered or used as a template to design and print prescriptions from a computer. It goes without saying that limiting the number of refills allows the advanced practice clinician to monitor the patient's response periodically, which is particularly important during long-term therapy. Requests for early refills are a warning sign of drug misuse or abuse. Drugs sometimes are legitimately lost or accidentally destroyed, but multiple requests for early refills should be treated as evidence of aberrant medication use and handled accordingly.

Documentation

The importance of accurate and up-to-date documentation cannot be over-emphasized. Having a complete medical record protects both the advanced practice clinician and patient. Advanced practice clinicians need to know and understand laws and regulatory requirements. In the United States, the Board of Medical Licensure or the Board of Pharmacy — or their equivalent — in each state can provide information about the relevant requirements.[56, 57]

Prescription drug monitoring programs

Both national and local PDMPs have been formed to attempt to detect suspicious patterns of drug use, particularly controlled substance use.[47] The National Alliance for Model State Drug Laws, or NAMSDL, reports on its website that, as of January 2012, there are PDMPs operational in 40 of the 50 states. An additional eight states have enacted legislation, but it is not yet operational.[50] National and/or local PDMP participation may provide further opportunity to identify and minimize any potential abuse, misuse, diversion or fraud involving prescription drugs. PDMPs seek to identify prescribers and patients at risk for both addiction and diversion, and provide for methods of profession and law enforcement intervention. Advanced practice clinicians' participation in such programs may further help to reduce the spread of prescription drug abuse. As the design and requirements of state programs may differ, nurse practitioners are directed to the DEA or NAMSDL for further information on their state-specific requirements.[50, 58]

CONCLUSION

Prescription drug abuse undoubtedly is an epidemic and has been increasing at an alarming rate. The abuse of psychotherapeutics — including opioid pain relievers, tranquilizers, stimulants and sedatives — poses the biggest threat. Advanced practice clinicians can play an important role in reducing prescription drug abuse through proper and adequate patient assessment, appropriate drug selection, patient education on proper use, storage and disposal of controlled medications, open communication with other allied healthcare professionals, responsible monitoring and record keeping, and protecting against the potential for theft or alteration of prescriptions.

PRACTICE POINTS

- Prescription drug abuse is the intentional use of a medication without a prescription for nonmedical purposes or in any manner other than as it was prescribed, and it has reached epidemic levels in the United States.
- Psychotherapeutics — including opioid pain relievers, tranquilizers, stimulants and sedatives — currently are the most abused prescription drugs.
- Advanced practice clinicians should make themselves aware of behaviors and methods often used by drug-seeking patients, so that they may identify patients that may be of concern.
- Advanced practice clinicians can play an important role in reducing prescription drug abuse through proper patient assessment, appropriate drug selection, patient education, open communication with other allied healthcare professionals, responsible monitoring and record keeping, and protecting against the potential for theft or alteration of prescriptions.

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Clinician CE LESSON

Learning Assessment

Successful completion of "Prescription Drug Abuse: From bad to worse" is accredited for 1 hour of continuing education credit, of which 0.75 hour is considered pharmacology credit. To obtain credit, answer the following questions and complete the evaluation online at DSNCollaborativeCare.com.

1. Prescription drug abuse is:
a. The intentional use of a medication without a prescription or in a way other than as it was prescribed
b. The unintentional use of a medication in a manner other than how it was prescribed
c. A maladaptive pattern with recurrent and significant adverse effects, such as failing to fulfill major role obligations, legal problems, physically hazardous use or interpersonal problems
d. All of the above

2. Which of the following prescription medications are most commonly abused and misused?
a. Tranquilizers, opioids and steroids
b. Opioids, tranquilizers, stimulants and sedatives
c. Opioids, stimulants and steroids
d. Opioids, stimulants and antifungals

3. The number of deaths associated with unintentional overdoses from prescription drugs is the _____ leading cause of unintentional injury death in the United States, according to 2007 data.
a. Second
b. Third
c. Fourth
d. 10th

4. Which of the following accounts for about three-quarters of total prescription drugs abused and may be more likely to produce morbidity and mortality?
a. Benzodiazepines
b. Sedatives
c. Opioids
d. Stimulants

5. According to the "2010 National Survey on Drug Use and Health," approximately how many people in the United States were current users of psychotherapeutic drugs taken nonmedically?
a. 1 million
b. 3 million
c. 5 million
d. 7 million

6. Which of the following is being used in increasing amounts for "performance-enhancing" effects among students believing that the use will increase grade point averages and test scores?
a. Diazepam
b. Hydrocodone
c. Oxycodone
d. Methylphenidate

7. Among the central nervous system depressants, _____ are by far the most commonly abused drugs.
a. Barbiturates
b. Benzodiazepines
c. Opioids
d. All of the above

8. Prescription drug misuse by women is motivated most by which of the following?
a. Behavioral problems
b. Emotional issues and psychological distress
c. Social problems
d. A and C

9. Both national and local prescription drug monitoring programs have been formed to:
a. Attempt to detect suspicious patterns of drug use, particularly controlled-substance use
b. Identify prescribers and patients at risk for both addiction and diversion, and provide for methods of profession and law enforcement intervention
c. Lower prescription drug costs
d. A and B

10. Which of the following behaviors or methods may be used by drug-seeking patients?
a. Patient might feign psychological problems — such as anxiety, insomnia, fatigue or depression — in an effort to obtain stimulants or depressants.
b. Patient might state that specific non-narcotic analgesics do not work or that he/she is allergic to them.
c. Patient might state that a prescription has been lost or stolen and needs re-placing.
d. B & C
e. All of the above