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NON-MEDICAL USE OF PRESCRIPTION DRUGS

Implications for NPs

Abstract: Nurse practitioners are the first line of defense when combating the problem of nonmedical use of prescription drugs. This article outlines related clinical issues and provides tools and treatment options to use with patients and the community.

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The nonmedical use of prescription drugs (NMUPD) is a major public health issue and has been cited as the nation's fastest growing drug problem.^{1,2} NMUPD is defined as, "the intentional use of an approved medication without a prescription, in a manner other than how it was prescribed, for purposes other than prescribed, or for the experience or feeling the medication can produce."³ For the purposes of this article, this term is equivalent to prescription drug abuse, and is used by the National Institute on Drug Abuse, as well as many national surveys and data collection systems. It does not correspond with the definition of abuse or dependence as listed in the DSM-IV. Prescription drug abuse is the use of a controlled substance outside the normally accepted standard of use, resulting in disability or dysfunction.⁴ The Substance Abuse and Mental Health Services Administration states that NMUPD can be distinguished from legitimate use because the drug is taken for the feeling or experience it produces. These experiences can be described as "getting high," "having fun," "getting a lift," "increasing awake and alert time," "losing weight," or "calming down."⁵

Approximately 48 million Americans over the age of 12 have participated in NMUPD in their lifetime, which equates to roughly 20% of the U.S. population.³ In just 1 month, the

prevalence of NMUPD is 7 million people (2.8% of the population).⁶ NMUPD has increased over the last year, making it the second most prevalent drug group in the United States after marijuana.²

ED visits involving NMUPD increased 98.4% between 2004 and 2009 and included multiple drug classes.⁷⁻⁹ ED visits for NMUPD now exceed ED visits for illegal drug use.⁷ In addition, the proportion of all substance abuse treatment admissions reporting NMUPD or opiate abuse increased more than fourfold between 2004 and 2009, from 2.2% to 9.8%, and was present across all age groups, both genders, all races/ethnicities, education levels, employments, and geographic regions. Of particular note was the marked increase among people ages 18 to 34.¹⁰ More than 13,000 deaths involving prescription opioids occur in the United States each year.¹¹ Unfortunately, the majority of prescription drug abusers do not get treatment.¹²

Almost 80% of Americans have had contact with a primary care provider in the last year, making nurse practitioners (NPs) among the first defenders against this critical issue. It is essential for NPs to expand their knowledge and awareness of NMUPD to better identify the problem and plan for effective interventions and treatment for patients.³

Key words: nonmedical use of prescription drugs, prescription drug abuse, substance-related disorders

■ Etiology

Reasons for NMUPD are complex. The phenomenon has grown with the widespread use of the Internet and more liberal prescribing patterns seen in many U.S. primary care practices. Many people also believe prescription drugs are safer than illegal drugs and are more socially acceptable. Among young people, negative attitudes about drugs are softening, and historical data has associated such a softening of attitudes with increases in future drug use.²

Prescription drugs are now more accessible than ever, as the number of prescriptions for controlled substances rose from 22 million to 354 million between 1994 and 2003.¹³ Prescribers have become more aggressive in addressing pain and the number of prescriptions has risen, which may be partially due to a cultural shift in pain management.¹³ The elderly are particularly susceptible for NMUPD. While older adults comprise only 13% of the population, they account for more than a third of the total outpatient spending on prescriptions, many of which could be considered NMUPD.^{3,6}

In addition to the increased access and availability of prescription medications that have contributed to NMUPD, marijuana, or other illicit drug use in adolescents and young adults has also increased.⁶

■ Risk factors

The strongest predictor of NMUPD is a prior history of this behavior before age 13 and a family history of substance abuse.^{14,15} Since the greatest population of those participating in NMUPD are adolescents and young adults, membership in this age group is a risk factor itself.¹⁶ One study also found a higher percentage of individuals who began NMUPD before age 13 were more likely to develop substance abuse and/or dependence later in life than individuals who experimented with NMUPD after age 21.¹⁷

A growing body of literature indicates a rise in the non-medical use of prescription stimulants, which are increasingly prescribed for individuals with attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD).^{4,18} These disorders are commonly diagnosed in children, adolescents, and young adults. A recent review article found that 5% to 9% of grade school and high school students and 5% to 35% of college students use stimulants nonmedically.¹⁹ Additional risk factors specific to this population include: lower grade point averages, White race, fraternity/sorority membership or affiliation, attendance at a competitive college or university, presentation of ADD or ADHD symptomatology, and other substance abuse or risky behaviors.¹⁹⁻²¹

Risk factors for NMUPD in older adults include: female gender, social isolation, depression, and a history of substance abuse.²²

Other groups at risk are adults with poor physical and/or mental health problems who may be self-medicating for these conditions.⁵ (See *Prescription medications commonly used nonmedically by drug class* and *Indicators and withdrawal symptoms of NMUPD by drug class*.)

■ Prevalence and Comorbidity

Overall, 3.1% of young people ages 12 to 17 reported current (within the last month) nonmedical use of prescription pain medications, which surpasses marijuana as the most common “gateway” drug to illicit drug use, most often heroin.^{6,23} In the older adult population, the prevalence of NMUPD may be as high as 11%.²⁴ The most commonly abused medications in this population are those prescribed to treat co-occurring diagnoses of anxiety, insomnia, and pain. Relief of pain symptoms is a common motivation for use among older adults.²⁴

There is a strong correlation between patients that suffer from co-occurring diagnoses of anxiety disorders, including panic disorder and posttraumatic stress disorder, and NMUPD.^{25,26} Many of these patients state their motivation for using prescription drugs is to self-medicate the uncomfortable anxiety symptoms. NPs must equally address both disorders in these patients to help lower the risk of prescription drug abuse. Further, failing to address co-occurring psychiatric diagnoses in the treatment of substance abuse has been widely associated with poorer posttreatment outcomes and prognoses.²⁷

There are also many patients that present with both depression and substance abuse.⁴ Substance abuse and NMUPD may intensify feelings of depression, but an underlying depressive disorder can also be a relapse trigger. It is imperative to treat the depression and chemical dependency with a combination of pharmacologic, behavioral, and psychotherapeutic interventions.⁴

NMUPD is also common among illicit drug users, particularly among users of marijuana, ecstasy, cocaine and heroin.^{14,28}

■ Community presentation

The Miami Herald reported that 1,185 people overdosed on oxycodone in Florida in 2009, up 26% from 2008.²⁹ A 2002 statement from the Drug Enforcement Agency notes that physicians and pharmacists illegally dispensing these medications are the primary means to obtain them for non-medical use.³⁰ However, the problem is complex and is caused by numerous factors. There are grassroots movements along with many legislators trying to educate the public about this problem, but the NP, as both a trusted caregiver and prescriber, can make a significant difference with knowledgeable assessments and referrals that help patients discontinue NMUPD.

■ Assessment and diagnosis

NMUPD can lead to substance abuse, which must meet DSM-IV-TR criteria to be diagnosed.³¹ It is defined as a pattern of maladaptive behavior involving recurrent or continued substance use, leading to clinically significant social and interpersonal impairment or distress. The diagnosis is strictly behavioral and not contingent on the quantity of substances used.³¹

The assessment must include a thorough medical, family, and drug history from the patient, which should be included in all new patient history and physicals. A patient providing vague, inconsistent, or incomplete information about their history or a patient who has difficulty establishing trust and rapport with the interviewer may be excluding valuable data. With a thorough interview, direct observations, and, if necessary, urine toxicology, the NP can provide a fairly accurate assessment.²³ Ideally, collateral information is also collected from family members or previous caregivers with the patient's consent. While brief addiction screening tools can be utilized, the clinical interview is more useful and personal. Specifically, the interview must include a past or current history of illegal or prescription drug use in the patient or their family members, any history of pain and its specific treatment, and any co-occurring psychiatric disorders. Alcohol dependence in particular, has a high correlation with the nonmedical use of tranquilizers and sedatives.³² The following risk factors are most highly associated with the abuse of opioids: being aged 18 to 21, unemployment, having depressive and agoraphobic symptoms, cigarette smoking, and a young onset age of drug and alcohol use.³² A high percentage of patients with substance abuse disorders experience pain; in one study of methadone maintenance patients it was found that 60% also suffered from chronic pain.³³ Undertreated pain is a risk factor and may compel individuals toward NMUPD.³⁴ Therefore, the diagnosis and management of pain coupled with a diagnosis of substance abuse includes both a pain and addiction specialist.⁴ These are two separate diagnoses that, unless treated adequately, will exacerbate the other.

The NP must be vigilant in assessing vital signs and other physical signs, such as examining the skin and mucosa for signs of abuse (see *Clinical features and warning signs of NMUPD for the nurse practitioner*). If the NP suspects substance abuse, but the patient denies it, a urinalysis that tests for drugs and alcohol can be useful. Another option is a hair analysis, which allows for a determination of drug use over several months, but the higher cost and lack of accessibility to a lab that tests hair samples may be a deterrent.

It is important to note that the goal of this meticulous assessment is to improve the patient's well being rather than

Prescription medications commonly used non-medically by drug class⁴⁰

Opiates

oxycodone (OxyContin)
oxycodone and aspirin (Percodan)
oxycodone and acetaminophen (Percocet)
methadone (Dolophine, Methadose)
hydrocodone and acetaminophen (Vicodin)
meperidine (Demerol)
tramadol (Ultram)
codeine 30 mg and acetaminophen (Tylenol #3)

Stimulants

(methylphenidate (Ritalin)
mixed salts of amphetamine (Adderall)
dextroamphetamine (Dexedrine)

Anxiolytics (Minor Tranquilizers)

alprazolam (Xanax)
lorazepam (Ativan)
diazepam (Valium)
clonazepam (Klonopin)
chlordiazepoxide (Librium)

Sedatives/Hypnotics

secobarbital sodium (Seconal)
zolpidem (Ambien)
triazolam (Halcion)
flurazepam (Dalmane)
temazepam (Restoril)

judge the individual. A concerned and confident mindset must be communicated to the patient verbally and nonverbally. Substance abusers are extremely sensitive to the perceived rejection or judgment of others and will most likely not be forthcoming if they do not feel a sense of trust and safety with the practitioner.

■ Treatment and management

When an NP identifies an individual who is prescription shopping or misusing prescription drugs, it is important to verbalize the suspicion and offer alternatives such as nonchemical strategies or referrals for help to discontinue the substance. The NP should have a list of available treatment options and support services in the patient's geographic area for referral and follow up. Should the patient deny the suspicion, a urine drug screen may be warranted to confirm NMUPD. If the patient refuses a urine drug screen, the practitioner has a difficult choice. Some NPs may choose to continue to treat the patient, but require a medication contract stating that only necessary medications will be prescribed. If the patient admits to NMUPD or has a positive drug screen, the NP should make a referral to help the patient discontinue use. The NP can also use a medication contract with the patient to increase the

frequency of prescriptions by requiring more follow-up visits and ensuring greater safety through monitoring (see *Addressing NMUPD with patients*).

Because NMUPD can lead to toxicity, overdose, and death, it is also necessary for the NP to determine if the patient will need a medical detoxification. A determination about whether to refer for detoxification is always essential, particularly with certain substances, such as barbiturates, benzodiazepines, opiates, and alcohol.

Further, formal treatment for chemical dependency can occur in a variety of settings (inpatient, residential,

outpatient), typically determined by the severity of the abuse or addiction, the financial constraints of the patient and the number of relapses or previous attempts at sobriety.

NMUPD is often best treated within a chemical dependency treatment program and with the ongoing support of a 12-step program. An individual with a chemical dependency can remain in remission as long as he or she refrains from continued use of addicting substances and enlists the help of other recovering individuals, ideally while learning and practicing nonchemical coping tools.³⁵ It is crucial for NPs to have ready access to a list of resources to promptly provide the

patient with needed support. Timing is important in an intervention, and NPs are in a unique position to intervene in an objective and concerned manner during vulnerable times. Individuals may contemplate problems and solutions before taking action, so the lack of immediate resolution should not be considered a treatment failure. Often, the patient will not instantly choose treatment.

A possible solution for patients that misuse or abuse stimulants and also have a diagnosis of ADD or ADHD is to cease the use of stimulants and treat the attention deficit with nonaddicting medications (atomoxetine) or encourage nonchemical solutions to their problems (such as organizational skills, tutoring, or supportive therapy).

The use of opioid contracts, which often require patients to submit to random drug screens, have become widespread. The main purpose of the contract is to improve care through better adherence to opioid therapy, but there is little evidence as to its efficacy.³⁶ A simple, straightforward signed contract offers protection for both the patient and the NP, clarifying what is expected from the patient and puts the patient on notice that there is a potential for abuse. It should include a listing of the prohibited prescription drugs, random drug testing protocols, contacts for pharmacies and healthcare providers to be utilized (with appropriate releases of

Indicators and withdrawal symptoms of NMUPD by drug class⁴⁰

Opiates

Indicators/Signs of Use

- Euphoria
- Sedation
- Constipation
- Decreased respiratory rate
- Hypotension
- Constricted pupils
- Shallow breathing
- Lethargy/Drowsiness

Withdrawal Symptoms

- Yawning
- Restlessness
- Tremors
- Twitching
- Seizures
- Rhinorrhea
- Flushing
- Piloerection
- Vomiting
- Diarrhea
- Tachycardia
- Hypertension
- Fever
- Exhaustion
- Craving
- Nausea

Stimulants

Indicators/Signs of Use

- Euphoria
- Excitement
- Agitation
- Irritability
- Insomnia
- Tremors
- Increased concentration
- Decreased appetite
- Hypertension
- Tachycardia

Withdrawal Symptoms

- Mood swings
- Increased appetite
- Craving
- Suicidal thoughts
- Homicidal ideation
- Fatigue
- Panic attacks or anxiety
- Depressed mood

Anxiolytics/Minor Tranquilizers

Indicators/Signs of Use

- Drowsiness
- Psychomotor impairment or changes
- Agitation
- Blurred vision
- Parasthesia

Withdrawal Symptoms

- Insomnia
- Irritability
- Twitching
- Confusion
- Seizures
- Tachycardia
- Hypotension
- Delirium
- Hypersensitivity to light or sound

Sedatives/Hypnotics

Indicators/Signs of Use

- Slurred speech
- Impaired judgment
- Disinhibition
- Drowsiness
- Mood swings
- Decreased corneal reflexes
- Decreased respiratory rate

Withdrawal Symptoms

- Restlessness
- Insomnia
- Anxiety
- Hallucinations
- Delirium
- Seizures
- Nausea
- Vomiting
- Cramps
- Hypotension

information, allowing future communication), and plans for how positive drug screens will be managed. It is recommended that, rather than automatic discharge from treatment, when a verifiable positive drug screen emerges, a higher level of care may be necessary.

In general, a professional with experience in the treatment of substance abuse is an excellent resource for consultation and for treatment. Most NPs are not specialists in addiction medicine by virtue of the standard coursework in graduate training. It is recommended that all primary healthcare practitioners pursue additional education in this area to enhance their skill-set.

■ Implications for NPs

Screening for NMUPD should be incorporated into all routine primary care visits. Even brief interventions have been effective in reducing or eliminating substance abuse in people who abuse drugs but are not yet addicted.² NPs in primary care are particularly well positioned to assist in such routine screening and initial assessments.

Some researchers, however, have identified a lack of addiction education and a shortage of specialty addiction curricula for NPs in primary care.² Survey data obtained from 233 NPs revealed that while most reported having a great deal of experience taking histories for addiction, they had little experience performing objective exams, using standard screening tools, ordering diagnostic related tests, prescribing pharmacologic treatments, and making addiction treatment referrals. Further, this sample reported having a mean of less than 3 hours of graduate education in addiction disorders, despite their perception of its high level of clinical importance. As a result, addictive disorders and NMUPD are often unrecognized or undertreated in primary care settings. Education and training is needed for NPs to better identify these issues.³⁷

Even without personal experience or broad knowledge on the topic, NPs can still refer patients to the appropriate treatment settings. Patient education can include simple facts related to parenting issues or more elaborate explanations of substance abuse and treatment. It is important for parents to understand that preventing children from experimenting with NMUPD decreases their chances of developing future problems with illicit drugs.¹⁷ Parents should also be taught that keeping prescription drugs out of their children's reach is essential. While education and prevention programs in schools have not been successful,³⁸ NPs can play an active role in prevention through education and reducing the number of addictive substances prescribed whenever possible. NPs can also promote and encourage nonpharmacologic treatments for patients as a primary course of therapy when appropriate.

Clinical features and warning signs of NMUPD for the nurse practitioner^{18,41}

- Personal and/or family history of substance abuse or addictive disorders, especially onset in early teens
- Comorbid disorders that may increase impulsive behavior or mood swings (e.g. bipolar, attention deficit hyperactive disorder, pain disorder, anxiety and depressive disorders)
- Presenting behavioral traits consistent with Antisocial Personality Disorder (e.g. incarceration and/or other legal problems)*
- Patient declining a physical exam (e.g. unwilling to show arms or nasal mucosa) or permission to obtain records or collateral information
- Not taking medications as prescribed (i.e. using a route of administration different than that prescribed; self-increasing doses)
- Early refill requests
- Arriving at a clinic after regular hours to procure prescription drugs
- Claims of lost or stolen prescriptions or medications
- Using the Internet to obtain controlled substances
- Providing textbook-like descriptions or exaggerated symptoms with a vague medical history
- Showing unusual knowledge about the prescription drugs
- Stating that nonprescription strength medications do not work or an undocumented allergy to them
- Pressuring the prescriber with threats, guilt, or sympathy

*According to the National Institutes of Health, antisocial personality disorder is a mental health condition in which a person has a long-term pattern of manipulating, exploiting, or violating the rights of others. Individuals with this disorder are characterized as having a lack of moral conscience in regards to one's behavior, which is often criminal

New tools are now available to assist NPs with patients suspected of NMUPD. For example, NIDA recently launched a support system called the Physician Clinical Support System for Primary Care. This system connects primary care providers with online information and resources as well as experienced physician mentors for specific advice about screening, intervening, treating, or referring patients who abuse drugs or alcohol or who participate in NMUPDs. A mentor physician or specialist will respond to queries within 24 hours.³⁹

Another program, NIDAMED, provides outreach to primary care providers online, while PEERx is an NIDA-sponsored effort to reach teenagers.³ In addition, 43 states now have authorized Prescription Drug Monitoring Programs (PDMPs), which help prevent and detect prescription drug abuse at the retail level and track prescribed controlled substances. According to a Government Accountability Office report, PDMPs are a useful tool to reduce drug diversion and

have been associated with lower rates of substance abuse treatment admissions as well as slower rates of increased abuse over time.²


■ **Striking the balance**

NPs are in a unique position to make a noticeable difference in curtailing the problem of NMUPD. It is imperative to

have strategies in place to prevent NMUPD within primary care practice. According to the Prescription Drug Abuse Prevention Plan, the public and healthcare providers need education to increase awareness about the dangers of prescription drug abuse and about ways to appropriately dispense, store, and dispose off controlled substance medications.² NPs' primary goal when prescribing drugs

Addressing NMUPD with patients



with abuse potential is to balance safe and effective treatment with the knowledge and awareness to prevent development of substance-related disorders in patients receiving these medications. 

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