

Running head: PRESCRIPTION AND OVER THE COUNTER DRUGS: ABUSE AND

Prescription and Over the Counter Drugs: Abuse and Addiction

Patricia Bolivar

2012

Social, Behavioral and Cultural Factors in Public Health

Abstract

Nearly all poisoning deaths in the United States are attributed to drugs, and most drug poisoning result from the abuse of prescription and illegal drugs (CDC, 2007). The focus of this paper is on the abuse and addiction of non-medical prescription and over the counter drugs by young adults and the elderly. Prescription (Rx) drugs provide benefits when used correctly under the care of a health provider. But when abused, they can be just as dangerous as illicit drugs. The misuse on nonmedical drugs can result in life threatening consequences, such as heart attack, stroke, breathing difficulty, coma and even death. Teens are abusing prescription and over the counter drugs (OTC) to get high, and the elderly to cope with medical care cost and chronic pain.

Measures involving a multidisciplinary approach in the prevention and treatment of addiction to prescription drugs are a task that has just started to take place. Prescription fraud response by police, pharmacists, local, state, and federal agencies with prescription monitoring programs, internet and emails crackdown in conjunction with public health education, and health care practitioners' involvement constitute new tools in the fight against the increase on addiction and abuse of Rx and OTC drugs.

Prescription and Over the Counter Drugs: Abuse and Addiction

Introduction

Nearly seven million Americans are abusing prescription drugs, more than the number who is abusing cocaine, heroin, hallucinogens, ecstasy, and inhalants combined. In the year 2000 the number of Americans abusing prescription drugs was 3.8 million, an eighty percent increase in just a few years (DHS, 2009). Part of this increase in abuse is fueled by the perception among many that prescription drugs are relatively safe when compared to what some might consider more conventional “street” drugs such as heroin or cocaine (Rannazzisi, 2009). The U.S. Drug Enforcement Administration (DEA) (NIDA, 2009) fact sheet on prescription drug abuse states that:

- Prescription pain relievers are new drug users’ drug of choice vs. marijuana or cocaine.
- Opioids painkillers now cause more drug overdose deaths than cocaine and heroin combined.
- Nearly one in 10 high school seniors admits to abusing powerful prescription painkillers. A shocking 40 percent of teens and an almost equal number of their parents think abusing prescription painkillers is safer than abusing “street” drugs.
- Misuse of painkillers represents three-fourths of the overall problem of prescription drug abuse.
- Twenty five percent of drug related emergency department visits are associated with abuse of prescription drugs.
- Older persons regularly consume two to six prescription medications and between one to three OTC medications per day.

According to the U.S. Food and Drug Administration (FDA), only 30 years ago more than 700 products sold over the counter today were switched from requiring a prescription. More power to one's health is available, but without the proper knowledge and compliance of the medication (DHS, 2009). Defining misuse, abuse, dependency and diversion is important to develop plans of action in the prevention and treatment of groups involved. Misuse refers to the use of a drug for a purpose not consistent with medical guidelines (e.g. modifying the dosage, using the medication to achieve euphoria, using it with other not prescribed psychoactive substances); the non-sanctioned use of psychoactive substances is usually labeled as abuse. Abuse connotes a pattern of substance use resulting in negative consequences and impairment. Dependence also requires a pattern of substance use and impairment in the presence of cognitive, behavioral, and psychological symptoms. Diversion is the transfer of medication from the person for whom it is prescribed to someone for whom it is not prescribed. Neither misuse nor diversion presumes a pathological level of substance use (Burkstein, 2008).

Methods of acquiring prescription drugs for abuse include "doctor shopping", traditional drug dealing, theft from pharmacies or homes, illicit acquiring prescription drugs via the internet, and from friends and relatives (Rannazzisi, 2007). The public as well as the medical community must be aware of the increase numbers in prescription drug addiction and abuse. The general public needs to know the consequences of abuse; parents need to be aware of how easy it is for children to acquire these drugs without a prescription and its dangers as abusing illegal drugs. Nurses need to understand how to recognize, deal, and educate a patient who is abusing. Public health practitioners must be aware of the prevention strategies to develop programs that address the affected community and groups. Patients, parents, health care professionals, pharmacists,

medical, and public health practitioners all have roles in preventing the abuse of and addiction to prescription medication.

Dimensions of Health

1. Behavioral Dimensions:

A. The young population

a) *Statistics:* There is relatively little stigma associated with prescription (Rx) drugs.

Because they are manufactured for a legitimate medical purpose, many take these drugs without the anxiety of thinking they will be ostracized for their habit. In 2006, the number of new initiates in the nonmedical use of Rx pain relievers was roughly even with that of marijuana persons aged 12 to 18 years (NIDA, 2009). Nearly 1 in 5 students in grades 7 to 12 reported using Rx medications that were not prescribed to them. Analgesics are currently the most misused Rx drugs by 12 to 17 years old adolescents, followed by tranquilizers and sedatives (Burkstein, 2008). Five of the top 6 drugs that 12th graders reported abusing in the past year were Rx cough and cold medicines, along with oxycodone (DHS, 2009). Rx stimulants misuse is highest among certain college students, in particular males, white students, members of fraternities and sororities, and those with lower grade point average (Burkstein, 2008).

b) *Availability and diversion:* Nearly 47 % of adolescents who use Rx drugs get them from for free from a relative or friend. 10 % buy analgesics from a friend or relative, and another 10% take the drug without asking. Those aged 14 to 20 years get prescription drugs online or by phone. Undergraduate college students are usually responsible for their own medication management, and thus Rx drugs may be readily

diverted. Epidemiological studies have found that problem use and dependence behaviors develop in a significant proportion of those who misuse Rx stimulants (Burkstein, 2008).

B. *Older adults.*

- a) *Causes:* Late life medication misuse includes the overuse, underuse, and irregular use of both prescribed and OTC medication. There are a number of reasons why misuse occurs: not understanding how to take the medications, not hearing how to use the medication, the medication tastes bad or bitter, having a confusing dosage schedule, missing some of the medications or skipping doses, afraid to take the medication, not able to afford it, not being able to read labels or see the medications, and not being able to open “childproof” medication bottles (Metha, 2007). Of particular concern is the combined use of specific Rx medications or OTC drugs with alcohol. For example, concurrent use of alcohol with benzodiazepines or barbiturates can result in sedation, confusion, falls, delirium, and withdrawal seizures (DHS, 2009).
- b) *Concerns:* Medication misuse is a serious and growing problem among older adults. Older adults can be particularly vulnerable to dangerous medication interactions, age-related physical changes, cognitive changes, health problems with related numerous medications, and social isolation, Older adults with limited English language skills or low literacy skills can be at particular risk for not comprehending complex medication regimes and failure to recognize risky medication taking behaviors (DHS, 2009).

2. Psychosocial dimensions.

- A. Mortality data. Unintentional drug poisoning mortality rates increased substantially in the United States during 1999 to 2004 attributed primarily to deaths associated with Rx opioids analgesics such as oxycodone (CDC, 2007). Emergency room visits involving Rx and OTC drug abuse grew 21% from 2004 to 2005. A single large dose of Rx or OTC painkillers or depressants can cause breathing difficulty that can lead to death. Stimulant abuse can lead to hostility and paranoia, or the potential for heart effects on motor skills, judgment, and ability to learn, which can increase the risk of injury. The abuse of OTC cough and cold remedies can cause blurred vision, nausea, vomiting, dizziness, coma and even death. In 2004, nearly half of all emergency room visits resulting from abuse of cough or cold remedies were patients between the ages 12 and 20. Many teens report mixing Rx and OTC drugs and alcohol. Using these drugs can cause respiratory failure and death (CDC, 2007). Stimulants abuse can lead to high blood pressure, irregular heart rate, cardiovascular system failure and seizure.
- B. Empirical data: The Centers for Disease Controls and Prevention (CDC) analyzed the most current data from the National Vital Statistics System which determined that drug poisoning mortality rates in the United States increased each year from 1999 to 2004, rising 62.5% during the 5 year period. The largest increase were among females (103.0%), whites (75.8%), persons living in the southern United States (113.0%), and persons aged 15 to 24 years (113.3%) (CDC, 2007).

Women are also at higher risk than men to become addicted to Rx drugs. Both men and women abuse Rx drugs at the same rate but women are twice as likely to become

addicted. This is because women are more likely to go to the doctor when they are feeling anxious or are in pain (NIDA, 2009).

3. Environmental Dimensions

Although many Rx medications can be abused, the three classes most commonly abused are opioids, central nervous system (CNS) depressants, and stimulants (Volkow, 2001). Each group can produce health effects with adverse impact on the community.

A. Opioids: usually prescribed to treat pain. Among the compounds that fall within this class are hydrocodone (e.g., OxyContin), morphine, fentanyl, codeine and related medications. Morphine and fentanyl are often used to alleviate severe pain, while codeine is used for milder pain. Other examples of opioids prescribed to relieve pain include Darvon, and Demerol. Some opioids can be used to relieve severe diarrhea and cough (NIDA, 2009). Opioids can be taken orally, or the pills can be crushed and the powder snored or injected resulting in overdose, particularly with OxyContin. Individuals who abuse or are addicted to Rx opioids medications can be treated with medically supervised detoxification, behavioral treatments with medications used for heroin addiction such as Methadone and Buprenorphine (NIDA, 2009).

B. CNS Depressants: (e.g., tranquilizers, sedatives) are medications that slow normal brain function. In higher doses can be used as general anesthetics or preanesthetics. CNS depressants can be classified into barbiturates (Nembutal), benzodiazepines (Valium), and new sleep medications such as Ambien, Sonata, and Lunesta. Discontinuing prolonged use or abuse of high doses of CNS depressants can lead to withdrawal symptoms. In addition to medical supervision during withdrawal counseling can help addiction (NIDA, 2009).

C. Stimulants: Amphetamines and methylphenidate (Concerta, Ritalin) increase alertness, attention and energy (Volkow, 2001). Taking stimulants in high doses can lead to hostility and paranoia. Treatment of addiction to Rx stimulants is based on behavior therapies. At this time, there are no proven medications for the treatment of stimulants addiction (NIDA, 2009).

Prevention

Little is known about best practices for prevention of prescription drugs use, and more research is needed. But such practices must be cast against the unique challenges to prescription misuse prevention that stems from the motivations for misuse, the influence of the FDA relaxed prohibitions against direct to consumer advertising (DTCA) of Rx drugs since 1997, the Internet promotion of Rx drugs, and the legitimate medical use of these drugs (Twombly, 2008).

A. Primary prevention

a) *Youths*. Physicians prescribing medications to treat pain, attention-deficit/hyperactivity disorder, or other medical conditions requiring drugs that may be misused or diverted must exercise caution and do not overprescribe them, especially use caution with refills Rx to college students (Twombly, 2008). Physicians' anticipatory discussion with patients about compliance and the risk involved with misuse and diversion of Rx medication should be considered as an integral part of psychoeducation (Burkstein, 2008). Education of the patients on directions of use, side effects, and drug interactions with other Rx medications, OTC, and health supplements. Prevention RX drugs in the household and methods to secure and monitor RX drugs use and misuse programs might include parental information on their role as gatekeepers. School based prevention on accurate information about risks associated with misuse of Rx and OTC drugs (Twombly,

2008). All educational institutions including colleges and universities should monitor student's use of substances with the potential for abuse, misuse, or diversion. Many colleges and universities are taking steps to prevent and manage binge drinking; similarly, education programs centered on the appropriate use of Rx drugs and the risks for misuse may be helpful. Well publicized sanctions should be delivered as needed to students who violate school rules (Burkstein, 2008).

b) *Elderly*. Several programs on health education through the computer technology are in place. The Personal Education Program (PEP) employ interactive multimedia software designed for the learning styles and psychomotor skills for older adults. The use PEP software increases knowledge regarding the potential drug interactions that can result from self-medication with OTC medications and alcohol (DHS, 2009). Group health educations in church settings combined with individual sessions with the pharmacist are alternative approaches to prevent medication misuse. Pharmacist interventions at various settings including health home settings, hospital prior to discharge with home based follow-up, clinics, community pharmacy, and long term facilities have shown to reduce the occurrence of drug related problems but have shown limited evidence that interventions reduce morbidity, mortality, or health care cost.

B. Secondary prevention.

a) *Teenagers* may use street drugs for recreational purposes, but they often report use of prescription drugs for practical effects; hypnotic drug for sleep, stimulants to enhance concentration and performance, and tranquilizers to decrease stress (Twombly, 2008). Parents are less likely to discuss Rx drugs abuse than street drugs abuse. Therefore the availability of screen testing urine or blood for Rx drugs and OTC to clinical laboratories

and to parents is not as of yet caught up with the need for this type of intervention.

Prevention messages must strike a balance by correcting misconceptions that these drugs are without risk, while not stigmatizing legitimate use for those who use the drugs to reduce pain or treating serious medical conditions when used with a prescription and as directed (Twombly, 2008).

- b) *Older adults*: The interdisciplinary non-profit panel Alliance for Aging Research assembled a set of recommendations for researchers, health care organizations, and public health policymakers to address the issue of geriatric medication misuse. Some of the recommendations have been funded, but much more funding needs to be directed to medical education to training in geriatric pharmacotherapy, and incentives to pharmaceutical manufacturers to better study medication effects in the frail elderly in pre- and post- marketing trials (DHS, 2009).

C. Tertiary Prevention.

As mentioned in the environmental dimensions section above, there is no single type of treatment which is appropriate for individual Rx drugs. Treatment options must take into account the specific type of drug used along with the needs of the individual (OCNCP, 2007). Medical supervised detoxification to help reduce withdrawal symptoms, behavioral treatment combined with medications, counseling in an inpatient and outpatient setting, and cognitive behavioral therapy focusing to modify patient's thinking and expectations (Byrne, 2009) are options available for Rx and OTC drugs dependence treatment.

D. Public Health Policy.

- a) *Drug Diversion*: broadly defined is when the legal supply chain of prescription analgesic drugs is broken, and drugs are transferred from a licit to and illicit channel of distribution or use (Stokowski, 2008). The Partnership attitude Tracking Study reported that 62% of adolescents said that Rx pain relievers were easy to get from their parents' medicine cabinets; 50% said they were easy to get through other people's prescriptions; and 52% said Rx pain relievers were "available everywhere". Most of the adolescents (56%) said that Rx drugs are easier to get than illegal drugs. More adolescents have been offered Rx drugs than other illicit drugs excluding marijuana (Burkstein, 2008). A major obstacle to ending drug diversion is the widespread belief that the full responsibility for the integrity of the drug supply chain rest with the prescriber (Stokowski, 2008). The public health approach of community responsibility, rather than an exclusive law enforcement approach is imperative to deal with the complex problem of Rx and OTC misuse, abuse, addiction and diversion.
- b) *Arresting and sentencing*: according to the Office of National Drug Control Policy (ONDCP, 2007) there are a variety of responses to Rx fraud that can be used by police, pharmacists, public health practitioners, and others to try to prevent and address this crime:
- Improve pharmacists' screening of prescription and patients
 - Employ security measures such as tampered resistant Rx pads
 - Prescribe drugs electronically
 - Create a database for customers

- Use of Rx monitoring programs in all the states
- Report illegal sale of pharmaceutical drugs using the Internet or e-mails advertising
- Contact the DEA toll-free International hotline (1-877-RxAbuse) to report the illegal sale and abuse of pharmaceutical drugs.

c) *Production and trafficking*: as previously mentioned individuals illegally obtain Rx drugs through a variety of means, such as doctor shopping or other Rx fraud, illegal online pharmacies, theft or burglary from residences, pharmacies, etc., receiving or intentionally by physicians or other prescribers (ONDCP, 2007). The effects of rogue Internet pharmacies is scaring, in 2006 thirty-four known or suspected pharmacies dispensed 98,566,711 dosages units of hydrocodone combination products. To put this in perspective they dispensed enough hydrocodone combination products to supply over 410,000 actual patients with one-month supply at the maximum amount recommended per prescription.

Conclusion

As public health practitioners we can be more than aware, we can be involved in education and preventive campaigns to decrease the prevalence of Rx and OTC drugs misuse, abuse, addiction and diversion by increasing awareness and promoting additional research. Rx drug abuse is not a new problem, but one that deserves renewed attention. As stressed by Dr. Nora Volkow director of the National Institute on Drug Abuse: “it is imperative that as a Nation we make ourselves aware of the consequences associated with the misuse and abuse of these medications” (NIDA, 2009).

References

- Centers for Disease Control and Prevention- CDC (2007). Unintentional poisoning deaths. United States 1999-2004. Retrieved from <http://www.cdc.gov/mmwr>
- Byrne, M. H., Lander, L., Ferris, M. (2009). Health and Social Work: The changing face of opioids addiction: Prescription pain pill dependence and treatment. Retrieved from <http://web.ebscohost.com.ezp.waldenlibrary.org>
- Bukstein, O. G., (2008). Psychiatric Times: Prescription drugs in youths: Diversion of prescription drugs by high school and college students is on the rise. Retrieved from <http://proquest.umi.com.ezp.waldenlibrary.org>
- Department of Health Services- DHS (2009). Substance abuse prevention. Medical misuse in older adults. Retrieved from <http://www.samhsa.gov>
- Mehta, Bella (2007). The Ohio Department of Aging: Medication misuse among older adults. <http://www.seniorseries.osu.edu>
- National Institute on Drug Abuse –NIDA (2009). The Science of Drug Abuse & Addiction: Nationwide trends. Retrieved from <http://www.nida.nih.gov>
- Office of National Control Policy –OCNCP (2007). Prescription drugs facts and figures. Retrieved <http://www.whitehousedrugpolicy.gov>
- Passik, S. D, (2007). Medscape Neurology: New findings in misuse and abuse of medications and addiction. Retrieved from <http://cme.medscape.com>
- Rannazzisi, Joseph T. (2007). U.S. Drug Enforcement Administration: Prescription drug abuse. Retrieved from <http://www.justice.gov>

Stokowski, L. A., (2008). Medscape Neurology: Drug diversions in the United States. Retrieved from <http://cme.medscape.com>

Twombly, E. C., and Holtz, K. D., 2008. Journal of Primary Prevention: Teens and the misuse of prescription drugs: Evidence-based recommendations to curb a growing societal problem. Retrieved from Walden University Library Academic Premier Database.

Volkow, N.D., (2009) Prescription drugs abuse and addiction. National Institute of Drug Abuse (NIDA). Retrieved from <http://www.drugabuse.gov/research/Reports/Prescription>