Identifying the Economic and Human Consequences of Prescription Opiate Abuse

A Master’s project submitted in partial fulfillment of
the requirements for the degree of
MASTERS IN NURSING

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APRIL, 2011
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ABSTRACT

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April, 2011

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Prescription drug abuse is our nation’s fastest growing health care concern. The non-medical use of prescription pain relievers is now the second most prevalent form of illicit drug use in America “and it’s tragic consequences are seen in substance abuse treatment centers and hospital emergency departments throughout our nation” (Goodale, 2010, p 1). Nearly 1.2 million of emergency room visits were due to prescription drug use in 2009, an increase of 98.4% from 627,291 visits in 2004 to 1,244,679 in 2009 (DAWN, 2010). This dramatic escalation of prescription drug use has placed a significant impact on the global consumption of all opioids, the United States (U.S.) consuming 80% of the global supply and 99% of the global supply of hydrocodone (Manchikanti, 2007). Unfortunately, the rising prescription abuse has lead to a national health care crisis, impacting many areas of our society both financially and emotionally.

This paper reviews the current relationship between health care costs and prescription opiate abuse. In addition, the paper examines the devastating consequences that opiate abuse has on the individual abuser and their family members, as well as the benefits of attending treatment programs specifically designed to address prescription opiate abuse. In order to decrease the use of prescription opiates, further research is needed to determine whether or not educational
methods for prescribers and persons with opiate addiction will alleviate the prescription drug concern.

*Key Words:* opiate abuse, pain management, chronic pain management, overcrowded emergency departments, increased healthcare costs, consequences of prescription opiate abuse, prescription opiates, treatment programs
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INTRODUCTION

Opioids are a class of drugs that include both natural and synthetic substances. The natural opioids include opium and its chemical derivative, morphine. Heroin, the most frequently abused opioid, is made from opium as are a variety of other synthetic opioids medications that are commonly prescribed for the treatment of pain. The classification of synthetic drugs that mimic the pharmacologic action of opium and its derivatives includes codeine, oxycodone (OxyContin), meperidine (Demerol), fentanyl (Sublimaze), hydromorphone (Dilaudid, and methadone (Opioids & Related Disorders, 2009).

Opioids act directly on the central nervous system of the brain, resulting in feelings of euphoria. These feelings and the physical and psychoactive affects of the drugs can help explain the non-medical use (misuse) and abuse of prescription opiates, a serious and rapidly growing health care concern. According to the National Survey on Drug Use and Health (2008), approximately 52 million Americans ages 12 and older reported using opioids, also known as opiates, for non-medical use at some point in their life and 6.2 million currently use them. Abuse of the prescription opioids has been defined as:

Any intentional use of a medication with intoxicating properties outside of a physician’s prescription for a bona fide medical condition, excluding accidental misuse. This definition of abuse includes use of medications prescribed for another user, even if for a physical condition, because this behavior can be risky (Comptom & Volkow, 2006. p. 4).

Opiate abuse imposes an enormous financial strain on health care in the U.S. and criminal justice systems. Billions of dollars are spent on health care costs, criminal justice costs, law
violations, and loss of productivity due to incarceration (Birnbaum et al, 2006). Emergency room visits have soared, resulting from misuse and abuse of prescription opiate drugs (SAMHSA, 2010). The highest numbers of emergency room visits were related to the request for prescription of oxycodone, hydrocodone, and methadone; prescriptions written for all of these have risen over the last 5 years (CDC, 2010). In addition, Americans are consuming 80% of the global supply of all opioids and 99% of the global supply of hydrocodone (Manchikanti, 2007).

In addition to the economic costs associated with this problem, opioid abuse is detrimental to many aspects of social life in the United States (U.S.). For example, it disrupts family members’ lives, impacts divorce rates, contributes to single parent families, and increases child abuse and neglect (CASA, 2005). Other consequences of opiate abuse include academic underachievement, unemployment, decreased productivity, missed days at work, and high school drop-out rates (Galanter & Kleber, 2008).

In an effort to address the health care crisis brought about, chemical dependency programs have been designed specifically for individuals abusing prescription pain relievers. These treatment programs have proven to be effective in reducing health care costs, arrests, risks of re-arrest and felony convictions. Yet, despite this effort, the war against prescription opiate abuse continues to soar. As the epidemic of prescriptions for opiates increases, so do the efforts to develop specific educational strategies for primary care providers on pain management, prescription drug use and abuse.

The purpose of this paper is to explore the correlation between prescription opiate abuse and the rise in health care costs, and to consider the devastating consequences of opiate abuse on the individual abuser and their family members. In addition, the paper examines the benefits of
treatment to reduce healthcare costs and addresses recommendations for further research and the clinical practice of nurse practitioners.

**Theoretical Framework**

There is one theory that helps explain why prescription opiate abuse has placed a huge financial strain on our health care system and imposed devastating consequences to individuals and families. The Social Construction Theory was selected as a framework for understanding these complex issues.

**Social Construction Theory**

Social Construction Theory states that social constructs are the by-product of human choice rather than from nature (Boghossian, 2006). A social construct is a social interaction amongst individuals based on their values and patterns of behavior. The misuse of opioids can be viewed as a social construct given that humans, including prescribers, patients, and social groups (such as families) consciously make choices to disregard the appropriate use of prescription opiates. Prescribers show evidence of this when they prescribe opiates before obtaining a throughout medical history regarding the patients’ complaints of pain. Patients who misuse prescription medications, whether their own or someone else’s, show disregard for the appropriate use of prescription opioids when they overutilize the emergency departments for non-urgent medical concerns. Social groups and families make choices that influence individuals to misuse prescription opioids when they allow their family members to use their prescription opiates.

These human choices lead to a series of negative repercussions that not only affect the individual but that also have a wide range of negative consequences for individuals and to our society. In turn, these negative consequences have a huge rippling effect on health care costs, as
well as devastating consequences to the individual user and their family members. These social constructs about prescription opiate abuse are generated from relationships between the prescriber, abuser, society and the family.

**REVIEW OF LITERATURE**

An extensive literature review was performed using electronic databases including, PubMed, Medline, CINAHL, Google Scholar and the document entitled, *National Drug Control Policy & Prescription Drug Abuse* (2008). The key terms used in the searches were opiate abuse, pain management, chronic pain management, increased healthcare costs, emergency department visits, opiate consequences, and treatment programs. From the thousands of articles that were identified using this search process, 48 articles were selected for review. The abstracts of these were reviewed for pertinence to the topics and 21 full text articles were retrieved and read in detail. In addition, four articles were retrieved that specifically pertained to the inappropriate use of emergency room visits for narcotic administration or prescription use. Of the 21 articles that were read in depth, 14 addressed health care costs, three addressed individual consequences of opiate abuse, two addressed how opiate abuse affects family members and two addressed treatment programs.

**Health Care Costs**

According to Manchikanti (2007), from 2004-2007 the number of emergency department (ED) visits that were directly related to opioid abuse in the U.S. increased from 198,000 to 420,000. Among the central nervous systems agents methadone, oxycodone, and hydrocodone were the most frequent opioids prescribed; hydrocodone/combinations in 51,225 ED visits; oxycodone/combination in 42,810 ED visits; and Methadone in 41,216 ED visits (2007). Parallel to opiate and non-medical prescription drug use, Americans consume 80% of the global supply
of opioids and 99% of the global supply of hydrocodone. Manchikanti (2007), described a direct correlation between the numbers of prescriptions for controlled substances and increasing ED visits, despite a lack of evidence of opiates' effectiveness in improving pain or functional status. In this review article, several studies were discussed that focused on the problem of prescription drug abuse discussing a series of proposed solutions (Manchikanti, 2007). The proposed solutions focused around further research directed at mandatory educational requirements for primary care providers and pharmacists and increasing funding for a national prescription monitoring program, the National All Schedules Prescription Electronic Reporting (NASPER). The study concluded that the most important aspect of reducing prescription opiate abuse centers on public and healthcare professional education.

In 2005, White et al. researched the overall costs of both prescription and non-prescription opioid abuse from a private payer's perspective. The research analysts focused on an average per-patient direct health care cost that was measured in 2003 United States dollars. The data source used was an administrative database of medical and pharmacy claims of 16 self-insured employer health plans with approximately two million patients. The data were used to compare total payer costs against opioid abusers and non-abusers and to identify "opioid abusers," defined for this study as having higher prevalence rates for specific co-morbidities such as non-opioid poisoning, hepatitis (A, B, or C), psychiatric illnesses, or pancreatitis. As defined these abusers also had higher levels of medical and prescription drug use. Out of the two million patients, 740 were identified as opioid abusers, a prevalence of approximately eight in 10,000 patients. The patients were 12 to 64 years of age and were continuously enrolled in a health care plan so that 12 months of data were accurately achieved for calculating costs. The study revealed 60% of opioid abusers had prescription drug claims compared to approximately 20% of
nonabusers. The overall mean annual direct health care costs for opioid abusers were more than eight times higher than for nonabusers. The total average health care cost for opioid abusers was $15,884 compared to $1,830 for nonabusers. The study concluded that the costly opioid abuse dollars are directly related to the increased cost on private payers, which hugely impacts the overall health care costs.

A study by Birnbaum and colleagues (2006) found that in the U.S. in 2001, the estimated costs of prescription opioid analgesic abuse was $8.6 billion. Of this total, $2.6 billion were attributed to healthcare costs, $1.4 billion to criminal justice costs, and $4.6 billion to workplace costs (Birnbaum et al., 2006). The data were primarily collected from the Substance Abuse and Mental Health Services Administration (SAMHSA), supplemented by other government data and analysis of a proprietary administration claims for an employed population. The results of the data analysis revealed healthcare costs directly related to prescription abuse treatment and excessive medical costs due to co-morbidities. The federal treatment costs were estimated at $46 million for private and government funded programs. The criminal justice costs of $1,430,800 billion were attributed to the number of arrests pertaining to prescription abuse such as possession and trafficking, creating increased expenditures for police protection. Finally, the cost of federally incarcerated inmates estimated a loss of productivity at $52.9 million and cost of incarceration for state is $416.5 million and local inmates at $188.1 million. Birnbaum and colleagues, concluded that although there were billions of dollars spent on prescription drug abuse in the 2001 data they examined, the economic burden on society is likely to be much higher today due to rising trends of prescription opiate abuse.
Individual Consequences of Prescription Opiate Abuse

The consequences of opiate abuse are widespread, impacting abusers' ability for academic achievement, employment, and financial independence. Several studies have found that adolescent opiate abuse is strongly related to poor educational attainment, including high school drop-out rates, missed days at work, and loss of employment (Galanter & Kleber, 2008). Additionally, Miller (2004) examined individual consequences of opiate abuse and similarly found three occupational difficulties directly related to opiate abuse: decreased productivity, increase in number of missed workdays, and loss of employment with subsequent financial problems. In conclusion, the individual consequences of prescription opiate abuse and its effects on one's ability to achieve and sustain financial independence places a debilitating drain on both private and public health care resources.

Gascon and Spiller (2009) conducted a trend study between the unemployment rate and the rate of opiate exposure in Kentucky from 2000 through 2005. The data collected were obtained between 2000 and 2003 from population and unemployment data maintained by the U.S. Census Bureau and U.S. Department of Labor. The results of this analysis revealed a positive correlation between higher unemployment rates directly related to opiate use. The study concluded that although there was a direct correlation between opiate use and higher unemployment rates further search is needed to determine the fluctuations trends of the unemployment rate.

Family Consequences of Prescription Opiate Abuse

The National Center on Addiction and Substance Abuse at Columbia University [CASA] (2005), examined family consequences related to opiate abuse. The study revealed that opiate addiction has serious effects on a user's lifestyle, disrupting one's relationship with family and
friends. This destructive pattern can lead to marital problems, divorce, child abuse and neglect, create co-dependency, and destroy interpersonal relationships and eventually self worth.

The CASA investigators found a strong correlation between the user’s addiction and the rise in divorce rates. Over the past 50 years, marriage rates were on the decline and divorce rates were on the rise. Single-parent families suffered economic hardship that has been linked to children’s patterns of opiate use and other problem behaviors. This rippling effect led to parents being unable to adequately care for their children. In many instances, this results in grandparents taking on the role of the children’s primary care providers. In 2002, 5.6 million children lived in a household with grandparents, which placed children at a greater risk for a variety of social problems including the potential for substance abuse.

The 2005 CASA researchers also investigated children of substance abusers and showed that they were at an increased risk for abuse and neglect. Seventy percent of all reported child maltreatment was related to parental substance abuse. In fact, the research showed substance users were 2.7 times more likely to report abusive behavior and 4.2 times more likely to report neglectful behavior towards their children. Fifty-six percent of all substance abusing adults reported neglectful behavior and met clinical diagnostic criteria for substance use disorder at some point in their life time. Drug use led to anxiety, paranoia, hallucinations, unstable and overly aggressive behavior which could be directed toward the child. These mental health problems placed the child at a greater risk by substance abusing parents who used overly punitive discipline measures. As adults, children of substance abusing households became 10 times more likely to develop feelings of isolation and loneliness caused by the family dysfunction, which increased the risk of abusing drugs in adulthood (CASA, 2005).
Banta and Montgomery (2007) stated that co-dependency is a common phenomenon experienced by family members. It enables the addiction process to continue and perpetuates actions that cause repetitively bad behavior and consequences. The authors recognized the concept of denial playing a definitive role in family members, friends, and even co-workers. Denial by co-dependent significant others allowed the individual substance abusers problems to escalate. The enabler’s refusal to acknowledge the deterioration of their loved one potentially increased the substance abuse pattern, either directly or by preventing naturally occurring consequences to intervene (Rotunda & Doman, 2001). It was concluded that one’s opiate addiction creates a wide range of consequences that place emotional and financial hardship on family members.

**Benefits of Treatment to Reduce Healthcare Costs**

According to the Treatment Episode Data Set (2007), treatment for abuse of prescription pain relief admissions have risen from 16,274 to 90,516 between 1997 and 2007. According to the most recent data collection, treating opiate addicts in a non-methadone or “drug free” chemical dependency program reduces health care costs, arrests and convictions (Nordlund, Estee, Mancuso & Felver, 2004). The database is used to compare the monthly Medicaid costs for opiate abuse treatment versus non treatment. The monthly Medicaid costs for untreated opiate addicts are $2,020, while costs treated addicts is $1,508. The average net cost offset (savings) for treatment was $512 per month. These cost offsets are interpreted as costs avoided for clients already receiving treatment. The cost offsets were estimated using regression models in which the effects covariates (age, gender, race/ethnicity, baseline medical expenditures, and dual eligible status) were controlled. The study also showed a dramatic reduction in the risk of re-arrest or convictions. Re-arrest rates were 43% lower for people that completed treatment as,
compared to those who were untreated. The felony conviction was 86% lower for clients that completed treatment when compared to untreated. The risk of any conviction was 61% lower for clients completing treatment compared to untreated. In conclusion, the study demonstrated that treating opiate addiction in a non-methadone chemical dependency program showed a significant reduction in health care costs, arrests and convictions.

**IMPLICATIONS FOR NURSE PRACTITIONERS**

Nurse practitioners (NPs) providing care to people will at some point treat a person with chronic or acute pain and encounter problems of prescription opioid misuse or abuse. The goal for all nurse practitioners regardless of the medical setting is to provide appropriate pain management by offering opioid analgesics when indicated. Developing an appropriate treatment plan should focus around obtaining a thorough evaluation of each patient’s pain symptoms. This can be accomplished by determining whether an appropriate health status workup has been completed, whether opioid analgesic use be justified, and can assist in identifying patients at risk for misusing or abusing opiates. The health history should determine whether an appropriate workup has been completed or whether additional studies are needed to identify the cause of the pain.

When developing a treatment plan, NP’s should consider the use of non-pharmacological agents as well as non-opioid alternatives as the first pain intervention whether or not opioid analgesics use is justified. If opiate use is justified, the NP should discuss the risks and benefits including the possibility of physical dependence, the potential for cognitive impairment, and the fact that pain may not respond to opioids. NPs can play a key role in identifying patients who might be seeking out prescription opiates for recreational or illicit use. Identifying drug seeking behaviors and promoting appropriate pain relief can be a critical balancing act that NPs will
encounter many times throughout their career. NPs are in a perfect position to address and manage the negative consequences of opiate abuse by referring patients to treatment programs and community resources to help reduce the devastating consequences of prescription opiate abuse. Nurse practitioners can utilize this information to help alleviate the overuse of prescription opiates while maintaining safe prescribing decisions, which will benefit patient care outcomes.

SUMMARY

Numerous research articles and national statistics directly link prescription opiate misuse and abuse to increased health care costs, consequences to individuals and family members, and the benefits of treatment programs. In an effort to address this national health care crisis, billions of dollars are spent annually. Despite the efforts, statistics continue to show that prescription drug abuse is still on the rise with increasing emergency department visits (Manchikanti, 2007). Consequently, the literature identified many contributing factors such as a lack of funding for a national prescription monitoring program (NASPER) and a lack of adequate professional and public education.

The lack of funding was the biggest contributing factor to implementing the NASPER program. A $60 million federal grant in 2005 was designed to help establish and improve the state run prescription drug monitoring program has not yet been put into effect due to unavailable monies (Manchikanti, 2007). Preventative programs and education would be a better use of the money currently being spent on this national health care crisis.

Inadequate professional education pertaining to pain management was also a huge contributing factor. Many health care practitioners have not received sufficient or updated information regarding pathophysiology, assessment, treatment, and monitoring requirements for
chronic pain (Arnstein & Marie, 2010). In addition, only 40% of physicians received any training in medical school in identifying prescription drug abuse and addiction (Manchikanti, 2007). Due to the enormous misuse and abuse of prescription opiates, the need for further educational methods regarding appropriate pain management should be mandated as part of the curriculum.

The research reviewed for this paper provided evidence that treatment programs have been beneficial in reducing overall costs to the public including crime prevention and medical costs. In addition, treatment programs can also positively impact the devastating consequences to the individual and family which in turn could prevent the cycle of substance abuse.

In order to identify the economic and human consequences of prescription opiate abuse, further research will need to be done to explore other alternative avenues regarding educational methods directed at primary care providers, patients and the general public.
References


http://www.jerichosschools.org/hl/library/Prescription%20Drug_Abuse_Surged_400_Per cent.pdf.


