

Prevalence of Prescription Drug Misuse in Patients Presenting to the Emergency Department

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Introduction

In the early 1990s multiple studies displayed the inadequate treatment of acute pain for patients presenting to Emergency Departments across the U.S. As a result, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) modified the standard of care in regards to acute pain management, which required more consistent assessments and diligent treatments. Subsequently, the average number of prescribed opioid analgesics in the U.S. increased from 96 mg of morphine equivalents per person in 1997 to approximately 700 mg per person in 2007. Furthermore, the number of unintentional opioid drug overdose deaths increased from 3,000 to 12,000 per year. Clinicians and policy makers are now working to reduce the effects of this new prescription drug epidemic.

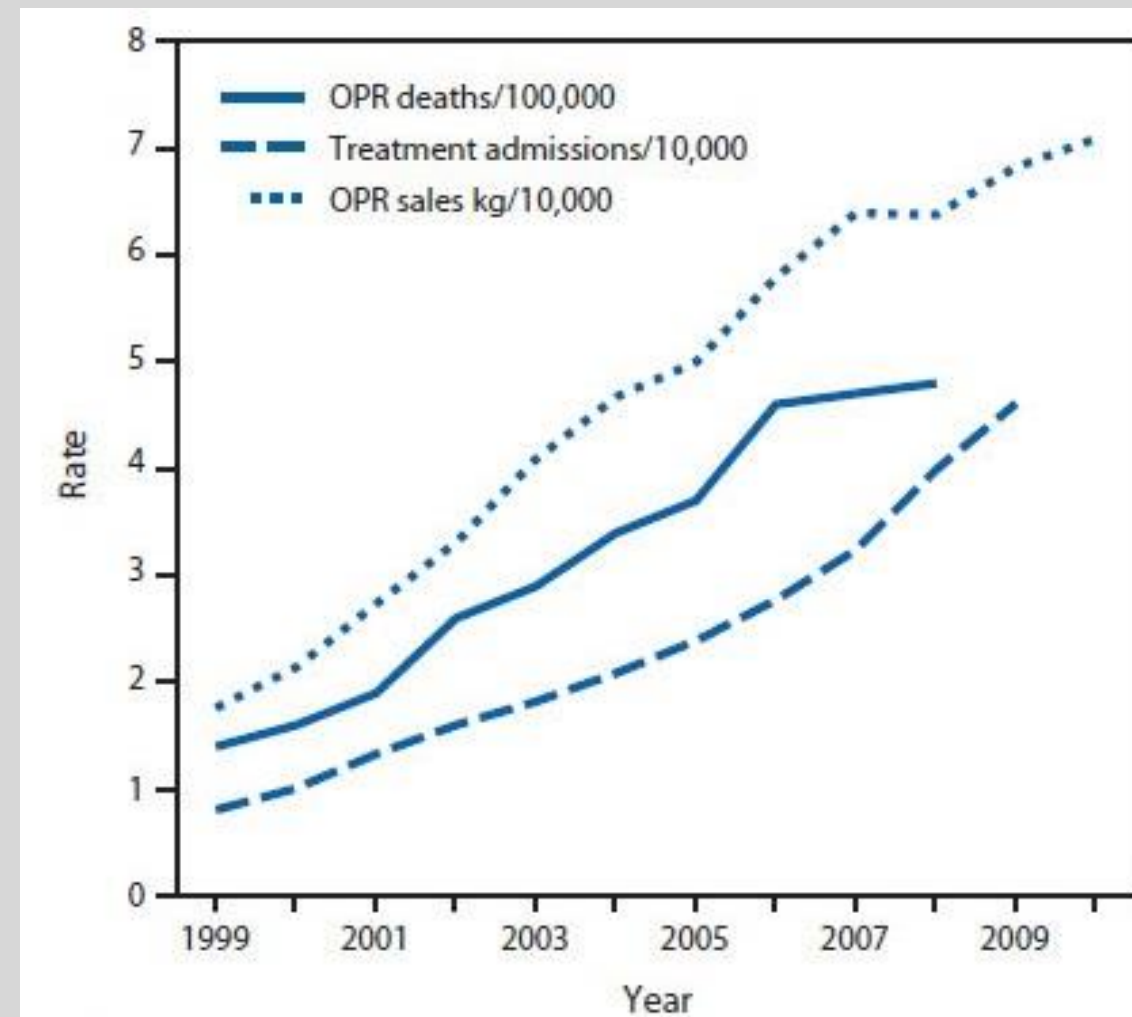


Figure 1. Rates of opioid pain relief medication overdose deaths, treatment admissions, and kilograms sold in the U.S. from 1999 to 2010. From: *Centers for Disease Control and Prevention (CDC) MMWR Morb Mortal Wkly Rep.* 2011 Nov 4; 60(43):1487-92.

Study Objectives

- To determine the prevalence of prescription medication use/misuse in patients presenting to the Emergency Department.
- To determine commonly used/misused prescription medications.
- To determine from where patients obtain these drugs.
- To elucidate correlations between various patient groups and prescription medication use/misuse.

Methods

Data for this study was collected from patients presenting to the ED of Parkland Memorial Hospital (PMH) with a chief complaint of 'back pain' or 'back injury' via a confidential, self-reporting survey designed to obtain demographic information, a brief medical history, and pain and anxiety medication use habits. Surveys were collected from 132 patients over the course of 8 weeks during the summer of 2014. Data was then organized in Microsoft Excel spreadsheets and analyzed using Stata/IC 13.1 statistical software.

Results

Statistical analysis of 132 patients revealed that 71 (53.8%) patients had used prescription pain or anxiety drugs in the past 3 months, with 30 (22.7%) utilizing them on a daily or near daily basis. Although only 6 (4.6%) patients admitted to struggling with pain or anxiety medication misuse and 0 (0%) admitted to utilizing current prescription medications for recreational purposes, 12 (9.1%) reported personal troubles, 12 (9.1%) reported a failure to do what was normally expected of them at some point in the past 3 months, and 9 (6.8%) reported a friend or relative expressing concern about substance use.

In the past 3 months...	Patient Responses
Have used prescription medication	71 (53.79%)
Had a strong desire to use prescription medication	35 (26.52%)
Prescription medication use has led to health, social, legal, or financial trouble	11 (8.33%)
Prescription medication use has led to the failure to do what was normally expected	12 (9.09%)
At any time...	Patient Responses
A friend or relative expressed concern over prescription drug use	9 (6.82%)
Tried to control, cut down, or stop using prescription drugs	17 (12.88%)

Figure 2. Proportions of patients reporting use, desire, and/or problems with prescription medications.

Hydrocodone was found to be the most widely used prescription medication in the sampled population. 52 (39.4%) had used this drug in the past 3 months. It led to health, social, legal, or financial problems for 9 (6.8%) while another 10 (7.6%) failed to do what was normally expected of them as a result of hydrocodone use. The prevalence of other surveyed drugs can be seen in **Figure 3**.

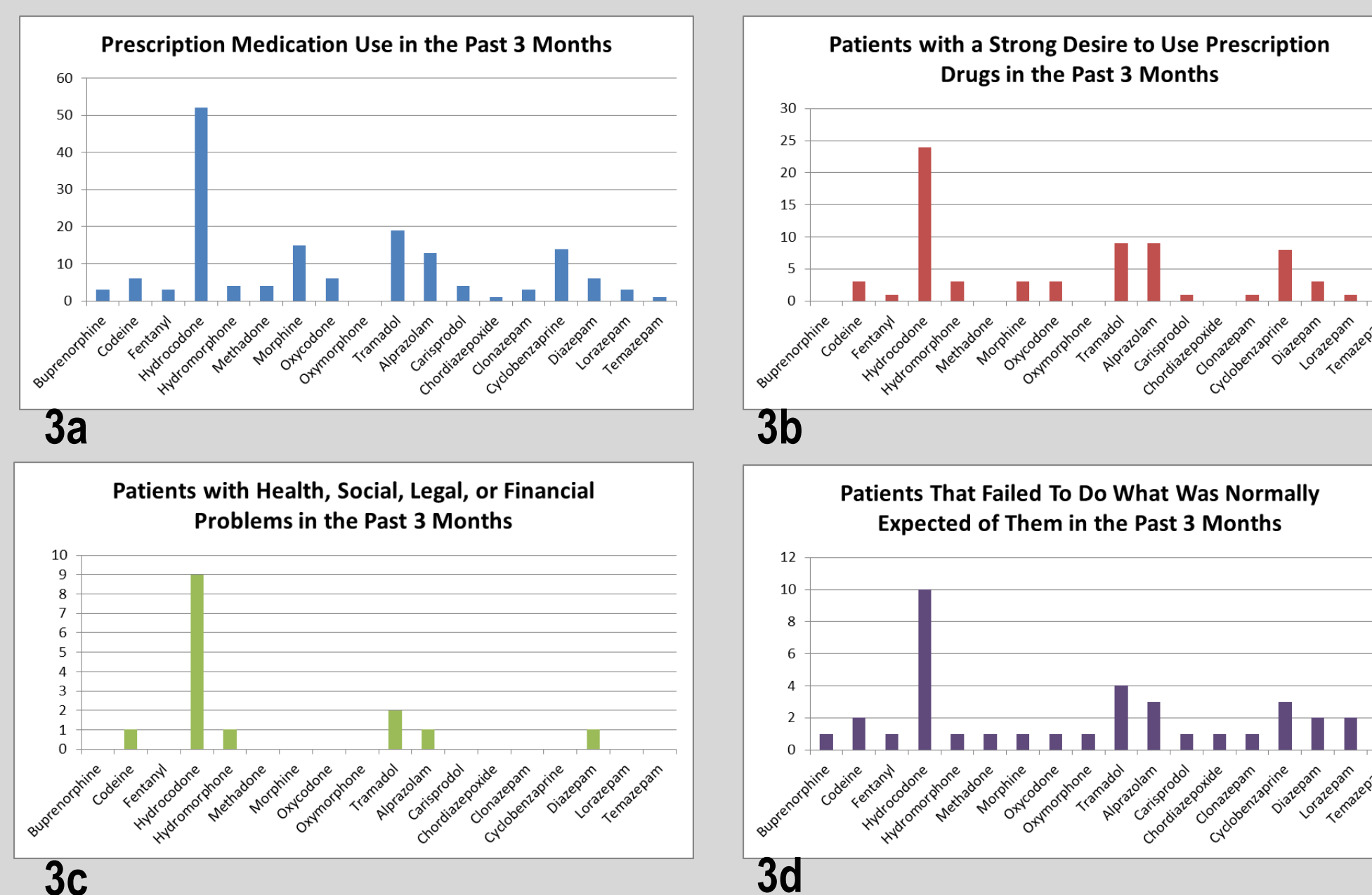


Figure 3a-3d. The prevalence of surveyed drugs in regards to use (3a), desire to use (3b), resulting health, social, legal, and/or financial problems (3c), and failure to do what was normally expected (3d).

Additionally, 24 patients reported having a current prescription for pain or anxiety medication. Of these, 17 (70.8%) were obtained from either ED or primary care physicians.

Analysis

A number of relationships were analyzed in order to determine at-risk individuals. Education level showed a statistically significant association with pain or anxiety medication use in the past 3 months ($p=0.003$). Additionally, a history of chemical dependence therapy was correlated with the expression of concern from friends or family in regard to substance use ($p=0.02$).

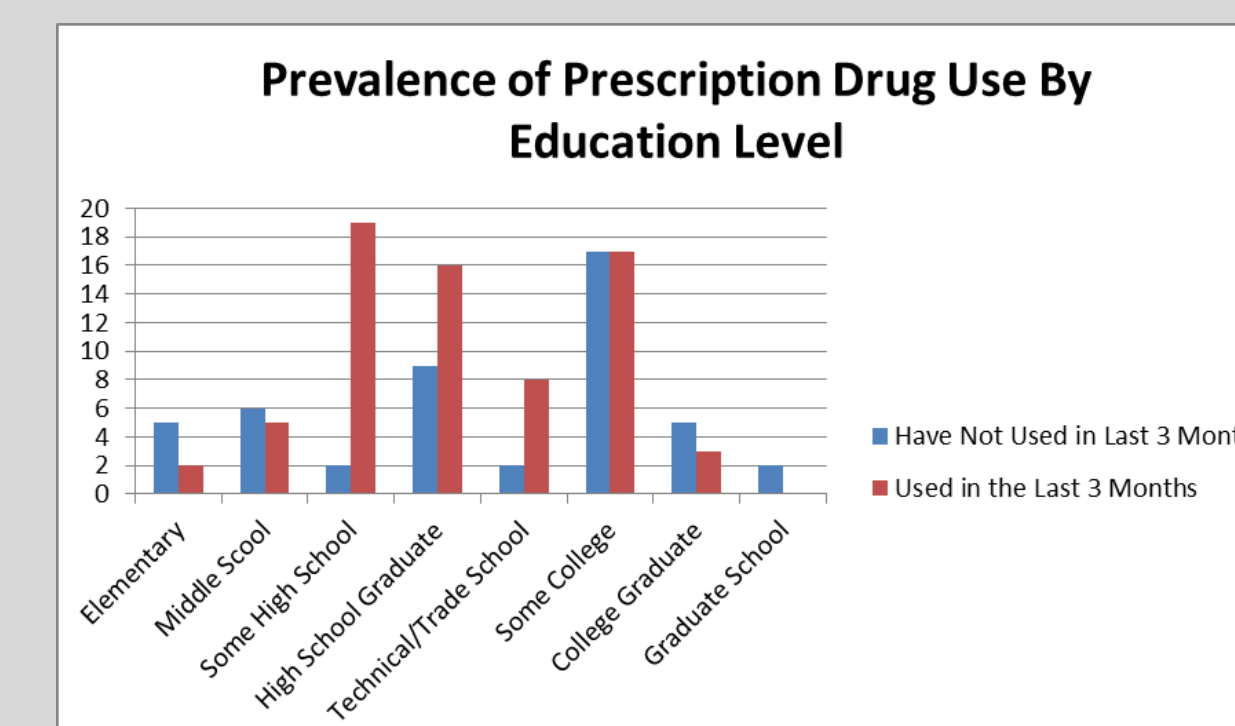


Figure 4a. The influence of education level on prescription drug use/misuse.

Other statistically significant relationships involved those patients reporting that they think they have a problem with pain or anxiety medication misuse and 1) a strong desire to use prescription drugs ($p=0.03$), 2) health, social, legal, and/or financial problems as a result of prescription medication use ($p=0.00$), 3) a failure to do what was normally expected ($p=0.00$), and 4) a friend or relative expressing concern about the use of prescription drugs ($p=0.00$). Although a statistically significant relationship was not found between military service and any problems associated with prescription drug use, only 5 military (active duty and prior service) were surveyed. Of these 5, 3 reported use of prescription opiates in the past 3 months, 2 reported a strong desire to use, 1 reported health, social, legal, and/or financial problems, 1 reported having failed to do what was normally expected of them, and 1 reported trying to control, cut down, or stop using these drugs in the past 3 months.

Conclusions

This data may be used to determine the prevalence and cause of prescription drug misuse among patients presenting to EDs with back pain or injury, providing clinicians with promising areas of intervention. Understanding the scope of the issue, coupled with the ability to prevent habitual drug misuse prior to its initiation, may serve to alleviate some of the negative effects associated with this new epidemic. Furthermore, those prescribing drugs may be able to elucidate early warning signs of prescription drug use/misuse by asking about education level, history of chemical dependence therapy, and personal perceptions about prescription drug use. In order to determine further information in regards to military veterans, this study should be repeated at such healthcare facilities specializing in their care.

Limitations

This study was limited by the traditional parameters of self-reported data, especially in regards to the reliability and validity of patients' responses. Considering the hospital setting responses may have been exaggerated, omitted due to embarrassment, or influenced by social desirability bias. Furthermore, the emotional status of the patients may have influenced the manner in which questions were answered. For example, many patients answered defensively when asked about prescription or illicit drug abuse. Finally, as this study relied on voluntary participation, a lack of participation may have skewed results.

Acknowledgements

Those conducting this study want to acknowledge the guidance of Dr. Lynn Roppolo and Beverly Taylor for coordinating the summer research program during which this study was conducted. Also, we would like to thank the faculty and staff of the Parkland Memorial Hospital Emergency Department for their support during the data collection phase of this study.

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