Prescription pain reliever misuse prevalence, correlates, and origin of possession throughout the life course

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HIGHLIGHTS

- Sources of pain reliever misuse across the life span are examined.
- Illicit drug use was a predictor of pain reliever misuse across all age groups.
- Older adults often reported possession from multiple medical doctors.
- Younger persons often reported possession from friend/relative or from a dealer.
- Drug use screening in medical settings may reduce prescription pain reliever misuse.
- Origins of possession can improve interventions among different age groups.

ARTICLE INFO

ABSTRACT

Introduction: While a considerable amount of information is available concerning who is most likely to engage in prescription pain reliever misuse, few studies have examined whether the correlates of pain reliever misuse and sources of pain reliever possession are consistent across the life span.

Methods: Data from the 2011–2012 National Survey in Drug Use and Health (NSDUH). Multivariate logistic regression examined clinical and social correlates of past-year pain reliever misuse, stratified by age. Additionally, bivariate analyses examined sources of pain reliever possession, and whether these origins differ by age.

Results: Among respondents, 4.7% reported past-year prescription pain reliever misuse. Prevalence for individuals aged 12 to 17 was 5.9%, 18 to 25 was 10.2%, 26–34 was 7.7%, 35 to 49 was 4.3%, and individuals aged 50 or older was 1.7%. While many social and clinical correlates of pain reliever misuse emerged among younger respondents, these correlates diminished in significance among older adults. Only past-year illicit drug use disorders (marijuana, cocaine, crack cocaine, heroin, and hallucinogen use) was a significant predictor of pain reliever misuse among all age groups. Also, older adults were more likely to report pain reliever possession from multiple medical doctors, whereas younger individuals were more likely to possess pain reliever from friends/relatives or through purchase from a drug dealer/stranger.

Conclusions: Increased efforts to better screen for illicit drug use and greater efforts to coordinate patient prescription records among medical care providers may be high priorities in developing interventions to reduce rates of misuse of prescription pain relievers, especially among older adults.

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1. Introduction

Prescription pain reliever misuse has seen a considerable increase in occurrence over the past 20 years. Prescription pain relievers includes multiple types of drugs including codeine, hydrocodone, oxycodone, Demerol, Dilaudid, methadone, morphine as well as many others, data from the Monitoring The Future study has shown an increase from 3.3% in 1992 to 9.0% in 2006 in prescription-related drug misuse, including opioid-related pain relievers. (Johnston, O'Malley, Bachman, & Schulenberg, 2007). Furthermore, visits to emergency departments related to nonmedical use of all prescription drugs increased 132% in the period from 2004 to 2011, while prescription pain reliever misuse increased 183% over the same period (SAMHSA, 2013).

Presently, approximately 4.6 million Americans report prescription pain reliever misuse in the past 30 days (Jones, 2012). These increases are of significant concern, as prescription pain reliever misuse carries substantial risk. Accidental overdose and increased risk for both illicit drug and alcohol use are found to be associated with pain reliever misuse (Bohnert, Valenstein, Bair, et al., 2011; McCabe, Cranford, & West, 2008).

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While individuals younger in age (Papaleontiou, Henderson, Turner, et al., 2010) are most likely to be at risk for pain reliever misuse, population prevalence estimates have shown that men (Boscarino, Rukstalis, Hoffman, et al., 2010), and individuals who identify as White/non-Hispanic (Liebschutz, Saitz, Weiss, et al., 2010) have an increased risk for misuse. However, these findings may often overlook how risk factors for pain reliever misuse change with age. For example, adolescents engaged in primarily prescription drug use tend to be female polysubstance users, with a larger number of mental health-related behavioral problems (Cranford, McCabe, & Boyd, 2013; Young, Corley, Stallings, et al., 2002; Young, Glover, & Havens, 2012). On the other hand, older adults seem to have fewer predictors of pain reliever misuse. Depressive symptoms (Park & Lavin, 2010) have been implicated, but few studies have examined whether the known correlates of pain reliever misuse, including both sociodemographic and clinical characteristics, are consistent across the life span.

Additionally, the origin, or sources of pain reliever misuse, and how they vary with the age of users is unknown. While many adolescents and young adults report the sources of prescription drug misuse as family and friends (Lankenau, Teti, Silva, et al., 2012; McCabe, West, & Boyd, 2013), little is known about how older adults come to possess, and subsequently misuse, pain relievers. The phenomenon of "doctor shopping" and overuse of pain-specific medical clinics have been implicated, but pain reliever origins specifically among older adults are yet to be examined systematically (Cepeda, Fife, Chow, et al., 2013; Gugelmann & Perrone, 2011; Pradel, Delga, Rouby, et al., 2010).

The belief that risks for pain reliever misuse are different among age groups is consistent with a life-course perspective. A life course perspective suggests that an individual's lifespan consists of experiences subject to change by immediate conditions, future options, and short-term events that emerge throughout life (Hser, Hamilton, & Niv, 2009). These experiences may have both short- and long-term consequences dependent on where an individual lies along their life course (Laub & Sampson, 1993; Sampson & Laub, 2003). For example, older adults face many experiences that can test an individual's ability to adapt to challenging transitions, including decisions to continue employment, managing prior drug use, mental or physical health problems, all of which, can influence the risk for current substance use problems. (Hser, Huang, Chou, et al., 2007; Hser et al., 2009). However, young adults may face alternatively difficult experiences such as adapting to new social roles (Petraitis, Flay, & Miller, 1995), cultivating new friendships (Bauman & Ennett, 1996), and regulating emotions and behavior (Shedler & Block, 1990), which can increase or reduce the risk of substance use. Whether these experiences associated with adolescents, young adults and older adults produce similar correlates associated with pain reliever misuse is not certain.

Thus, the aim of this study was to establish the prevalence of pain reliever misuse across different age groups and sociodemographic and clinical variables, examine whether the correlates of pain reliever misuse are stable with age, and whether any age differences exist in the sources of pain reliever misuse by age.

2. Materials and methods

2.1. Data source

Data is from the combined 2011 and 2012 National Survey of Drug use and Health (NSDUH). The NSDUH is an annual survey of the non-institutionalized U.S. population intended to collect data on the patterns, prevalence, and correlates of drug use. NSDUH provides population estimates of substance use and health status of the population aged 12 years or older. Approximately 2% of the US population, including active military personnel, institutionalized citizens (e.g., prisons, nursing homes, mental institutions, and long-term hospitals), and homeless persons not living in a shelter were excluded (SAMHSA, 2009). The survey uses a multistage area probability design stratified

by demographic factors to ensure an inclusive sample. Population weights are used to adjust for nonresponse rates and geographic distribution of the sample. Data are collected through computer-assisted personal interviewing (CAPI) and audio self-interviewing (ACASI) methods. More specific information about the design and procedures is available elsewhere (SAMSHA, 2009). The total sample from the publicly available 2011 and 2012 NSDUH was 113,665 (58,397 from the 2012 NSDUH; 55,268 from the 2011 NSDUH). The specific age groups 12 to 17 years, 18 to 25 years, 26 to 34 years, 35 to 49 years, and 50 years or older were used in the present analysis as these were the same age groups used in efforts to maximize the sampling estimates, as described in NSDUH survey methodology (Health Statistics & Quality, 2011).

2.2. Measures

2.2.1. Prescription pain reliever misuse measures

All participants were asked about their misuse of prescription drugs through the question "how long has it been since you last used any prescription pain relievers that was not prescribed for you or that you took only for the experience or feeling it caused?" These answers were dichotomized to those who had reported use in the past year vs. those who had not. Additionally, participants were asked about their misuse of specific prescription pain relievers. These included binary assessment of the misuse of codeine, hydrocodone, oxycodone formulations, Demerol, Dilaudid, methadone, morphine and "other" prescription opioids.

2.2.2. Sociodemographic and clinical measures

Participants reported their age, gender, race/ethnicity, marital status, current employment status, and annual past-year household income. The clinical measures included past-year experiences of psychological distress, self-rated health status, the presence of a past year DSM-IV alcohol use disorder (abuse or dependence), the presence of past-year DSM-IV illicit drug use disorders (including marijuana, cocaine, crack cocaine, heroin, and hallucinogen use), self-reported age of first use of alcohol and self-reported age of first use of any illicit drugs.

General health status was assessed with the single item question, "would you say your health in general is excellent, very good, good, fair, or poor?" These responses were dichotomized into excellent/very good/good vs. fair/poor. Using the World Health Organization Disability Assessment Schedule (WHODAS) (Rehm, Üstün, Saxena, et al., 1999), the NSDUH assessed for the presence of DSM-IV specific diagnoses among respondents. For DSM-IV alcohol use disorders, a binary variable indicating past year use was created. A composite binary variable was created of past-year DSM-IV illicit drug use disorders including marijuana, cocaine, crack cocaine, heroin, and hallucinogens. The survey also assessed age of first use of alcohol, marijuana, cocaine, crack cocaine, heroin and hallucinogens. Separate variables were created for age of first use of alcohol, and age of first use of any illicit drug.

2.2.3. Source of pain reliever possession

Among participants who reported past-year pain reliever misuse, participants were asked how they came to possess pain relievers. Participant responses were categorized into "one doctor," "more than one doctor," "wrote a fake prescription," "stole it," "got it from a friend/relative for free," "bought it from a friend or relative," "took it from a friend/relative," "bought it from a dealer/stranger," and "some other way."

2.2.4. Analyses

Analyses were computed using weighted population analyses in STATA Version 12 (StataCorp, 2011). These weighted analyses adjust standard errors of estimates for complex survey sampling design effects including clustered data. Chi-square and ANOVA tests of significance were used to make bivariate comparisons between prescription pain reliever misuse status and sociodemographic/clinical characteristics,