



## Family ties: Maternal-offspring attachment and young adult nonmedical prescription opioid use



M. Cerdá<sup>a,\*</sup>, P. Bordelois<sup>a</sup>, K.M. Keyes<sup>a</sup>, A.L. Roberts<sup>b</sup>, S.S. Martins<sup>a</sup>, S.L. Reisner<sup>b,c</sup>, S.B. Austin<sup>b,d,e,f</sup>, H.L. Corliss<sup>d,e,f</sup>, K.C. Koenen<sup>a</sup>

<sup>a</sup> Department of Epidemiology, Columbia University Mailman School of Public Health, New York, NY 10032, USA

<sup>b</sup> Department of Social and Behavioral Sciences, Harvard School of Public Health, Boston MA 02115, USA

<sup>c</sup> Department of Epidemiology, Harvard School of Public Health, Boston, MA 02115, USA

<sup>d</sup> Division of Adolescent and Young Adult Medicine, Boston Children's Hospital, Boston, MA 02115, USA

<sup>e</sup> Department of Pediatrics, Harvard Medical School, Boston, MA 02115, USA

<sup>f</sup> Channing Division of Network Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, USA

### ARTICLE INFO

#### Article history:

Received 6 February 2014

Received in revised form 17 June 2014

Accepted 18 June 2014

Available online 30 June 2014

#### Keywords:

Nonmedical prescription opioid use  
Maternal-child attachment  
Sibling fixed effects models  
Mediators

### ABSTRACT

**Background:** Nonmedical prescription drug use is prevalent among young adults, yet little is known about modifiable determinants of use. We examined whether maternal-offspring attachment reported at mean age 21 was associated with nonmedical prescription opioid use at mean age 26, and investigated whether a history of depressive symptoms and substance use played a role in associations between maternal-offspring attachment and nonmedical prescription opioid use.

**Methods:** We used data from the Growing Up Today Study, a longitudinal cohort of United States adolescents followed into young adulthood. Maternal-offspring attachment was reported by young adults and their mothers, and defined as mutual low, mutual medium or high, and dissonant. Analyses were carried out in the full sample using generalized estimating equation models, and in a sibling subsample, using conditional fixed effects models to control for stable aspects of the family environment.

**Results:** Analyses with the full sample and the sibling subsample both showed that mutual medium/high maternal-offspring attachment at age 21 was associated with lower odds of nonmedical prescription opioid use at age 26 (RR = 0.74; 95% CI = 0.57–0.97 in full sample). The association was partly mediated by mean age 23 offspring smoking, heavy episodic drinking, and illicit drug use.

**Conclusions:** Promoting reciprocal attachment in the maternal-offspring dyad should be investigated as a strategy to prevent nonmedical prescription opioid use by young adulthood. Even in young adulthood, programs that target both parents and offspring may have greater impact on offspring substance use than programs that target offspring alone.

© 2014 Elsevier Ireland Ltd. All rights reserved.

### 1. Introduction

Nonmedical use of prescription opioids, that is, use for recreational or self-treatment purposes without a prescription, or using more medication than prescribed by a physician, is an important and growing public health problem in high-income and low-middle-income countries (UNODC, 2011). In countries as diverse as Canada, Mexico, Costa Rica, and Australia, non-medical prescription opioids account for most of the use of opioids (UNODC, 2011).

Little is known about modifiable determinants of use. Data from the United States provides some of the first insights into the epidemiology of non-medical prescription opioid use.

In the United States, an estimated 52 million people have used prescription opioids for nonmedical reasons at least once in their lifetime (Substance Abuse and Mental Health Services Administration (SAMHSA), 2011). Nonmedical prescription opioid use has increased dramatically since the early 1990s along with related mortality. While prescription opioids are a safe and effective treatment for pain when used as prescribed, unintentional overdose deaths due to nonmedical prescription opioid use quadrupled from 1999 to 2010 and by 2007 outnumbered those involving heroin and cocaine combined (National Institute on Drug Abuse, 2011). Women are particularly affected by this increase: deaths from prescription opioids increased more than 400% since 1999 for

\* Corresponding author at: Columbia University Mailman School of Public Health, 722 W168th Street, Room 527, New York, NY 10032, USA. Tel.: +1 212 305 2570; fax: +1 212 342 5168.

E-mail address: [mc3226@columbia.edu](mailto:mc3226@columbia.edu) (M. Cerdá).

women, compared to 265% for men (CDC, 2013). In 2010, approximately 2.4 million Americans used prescription opioids nonmedically for the first time, or 6600 people per day (SAMHSA, 2011).

Young adults (aged 18–25 years) are the age group at highest risk for nonmedical use of prescription opioids, with 5.9% reporting past-month nonmedical use in 2010 (SAMHSA, 2011). The young adult developmental period is characterized by rapid transitions into social contexts with more freedom, greater decision-making autonomy, and less exposure to external social controls than experienced during adolescence (Stone et al., 2012). Concomitant to this greater level of freedom is an increase in the prevalence of substance use and abuse. Understanding factors associated with nonmedical prescription opioid use in young adulthood is critical to developing interventions to prevent use and related problems (i.e., opioid use disorders) both in the short-term and in later adulthood (Dowling et al., 2006; Martins et al., 2010).

We focus on a potentially key determinant of young adult prescription opioid use: maternal-offspring attachment in late adolescence/young adulthood. A parent-offspring relationship characterized by secure attachment has been associated with healthy development and reduced drug use (Brook et al., 1990). Different aspects of the parent-offspring relationship, including parental assertiveness and involvement, parental affection and offspring-centeredness, and offspring's identification with parents' values, have been inversely correlated with drug use (Brook et al., 1990; King and Chassin, 2004; Locke and Newcomb, 2004; Maggs et al., 1997; Morojele and Brook, 2001; Stone et al., 2012). In the case of nonmedical prescription opioid use, however, the evidence is less clear. Harrell and Broman (2009) did not find an association between mid-adolescent reports of satisfaction and closeness of the maternal relationship and any type of young adult nonmedical prescription drug use in Add Health, a nationally representative US sample of young adults (Harrell and Broman, 2009). However, contrary to expectations, maternal warmth was associated with higher risk of nonmedical prescription drug use among Hispanic respondents, specifically (Harrell and Broman, 2009). Collins and colleagues did not detect an association between offspring reports of parental monitoring and any nonmedical prescription drug use in a sample of Appalachian children and adolescents (Collins et al., 2011). To the best of our knowledge, no prior national study has examined the association between the quality of reciprocal maternal-offspring attachment, measured from the perspectives of both the mother and the offspring, and nonmedical prescription opioid use.

In addition to being understudied, research on the relation between maternal-offspring attachment and nonmedical prescription opioid use faces at least two important challenges. The first involves confounding. Maternal-offspring attachment occurs along with a broader constellation of social and behavioral factors that also influence offspring substance use. This poses a challenge to assessing the causal effect of maternal-offspring attachment. Family-level characteristics that are potentially confounding factors include family socioeconomic status and family violence, as well as maternal characteristics including marital status, personality attributes, nonmedical prescription opioid use, and psychiatric history (D'Onofrio et al., 2012; Kendler et al., 2013). While some investigators have measured some of these factors in studies of maternal-offspring attachment and other types of substance use, determining whether or not there is a causal effect of maternal-offspring attachment may require accounting for all of them simultaneously as well as other unmeasured and unknown confounders.

A second important challenge involves understanding the mechanisms in the offspring that connect maternal-offspring attachment to nonmedical prescription opioid use. Comorbid offspring psychiatric symptoms and other substance use may constitute central mechanisms in the pathway linking

maternal-offspring attachment to offspring nonmedical prescription opioid use. Low maternal-offspring attachment in adolescence increases the risk for offspring depression, which contributes to nonmedical prescription opioid use as a way to self-medicate depressive symptoms (Khantzian, 1997; Martins et al., 2012). At the same time, early alcohol use, cigarette smoking, and illicit drug use among offspring with low maternal-offspring attachment may serve as a gateway to acquiring and experimenting with prescription opioids (Brook et al., 1990). Previous research suggests that depression and other substance use precede incident prescription opioid use, but the role that they play in the relationship between maternal-offspring attachment and nonmedical prescription opioid use is unknown (McCabe et al., 2005, 2008; McCabe and Teter, 2007; Pletcher et al., 2006).

In the current study, we conducted an analysis of maternal-offspring attachment in relation to offspring nonmedical prescription opioid use in the context of a prospective cohort study in which multiple offspring per family were enrolled. The power of this design comes from sibships in which there was variability in maternal-offspring attachment and nonmedical prescription opioid use, but similarity in the shared familial environment (Lahey and D'Onofrio, 2010). Hence, differences in nonmedical prescription opioid use between exposed and unexposed siblings could not be attributed to shared aspects of the familial environment, ranging from some shared inherited genetic susceptibility and family history of nonmedical prescription opioid use to shared environmental factors. This design consists of a comparison of siblings matched on family background, in which estimates of nonmedical prescription opioid use risk are conditioned on family-specific intercepts.

This study had two aims: (1) to examine the association between maternal-offspring attachment in late adolescence/young adulthood and nonmedical prescription opioid use in young adulthood; and (2) to evaluate whether offspring depressive symptoms and substance use (i.e., heavy episodic drinking, cigarette smoking, marijuana, and other illicit substance use) reported following maternal-offspring attachment and prior to nonmedical prescription opioid use explain the association between maternal-offspring attachment and nonmedical prescription opioid use in young adulthood. Analyses were conducted in the full sample as well as in a sibling subsample.

## 2. Methods

### 2.1. Study sample

The Growing Up Today Study (GUTS) is an ongoing cohort study enrolled in 1996 with offspring of women participating in the Nurses' Health Study II (NHS II). NHS II is a prospective cohort of female nurses. The study, begun in 1989, recruited 116,430 nurses aged 25–44 nationwide and has since followed them biennially. Nurses with offspring of ages 9–14 ( $N = 34,174$ ) were requested permission to recruit their offspring into GUTS. A baseline questionnaire was mailed to the nurses who granted consent (54%). Of their children, 9039 girls (68%) and 7843 boys (58%) returned the baseline questionnaire and were enrolled. Since baseline, GUTS participants have completed 11 questionnaires, initially on an annual basis and every two years since 2001. Participants who missed a questionnaire were retained in subsequent waves. A detailed description of the GUTS cohort is available (Field et al., 1999).

This analysis was conducted among all GUTS participants who responded to 2010 questions about past-year nonmedical prescription opioid use (hereafter referred to as "full sample,  $n = 7746$ ") and in a subsample consisting of the sibling pairs in which at least one of the siblings reported past-year nonmedical prescription opioid use on at least one occasion (number of young adults = 290, number of families = 139), hereafter referred to as the "sibling subsample." This study was approved by the Brigham and Women's Hospital Institutional Review Board. Study participants provided informed consent prior to participating in the study.

### 2.2. Study measures

Table 1 shows timing of assessment of the variables used in the analyses. To summarize, to establish a temporal order, confounders were measured before assessment of the exposure of interest (maternal-offspring attachment), while potential mediators were assessed between assessments of the exposure and

Download English Version:

<https://daneshyari.com/en/article/7506019>

Download Persian Version:

<https://daneshyari.com/article/7506019>

[Daneshyari.com](https://daneshyari.com)