Addictive Behaviors 50 (2015) 74–77

Contents lists available at ScienceDirect

Addictive Behaviors

Short Communication

Health anxiety and the non-medical use of prescription drugs in young adults: A cross-sectional study

Amy J. Jeffers, Eric G. Benotsch *, Brooke A. Green, Dana Bannerman, Miriam Darby, Tara Kelley, Aaron M. Martin

Virginia Commonwealth University, Department of Psychology, P.O. Box 842018, Richmond, VA 23284, United States

HIGHLIGHTS

- Young adults who misused prescription drugs had higher health anxiety scores.
- Misusers also had more doctor appointments and chronic health conditions.
- Hopelessness and sensation-seeking were risk factors for prescription drug misuse.
- Health anxiety predicted prescription drug misuse over and above these variables.

ARTICLE INFO

Available online 11 June 2015

Keywords:
Health anxiety
Hypochondriasis
Prescription drug
Prescription drug misuse
Non-medical use prescription drug

ABSTRACT

Introduction: Studies have demonstrated a relation between health anxiety (hypochondriasis) and substance use, but this minimal body of literature has focused on alcohol or illicit drugs. The use of medications without a physician's prescription (i.e., non-medical use of prescription drugs, NMUPD) is increasingly prevalent among young adults. Health anxiety, a tendency to worry excessively about health, is a factor that could contribute to NMUPD, but this has not been examined. The purpose of the current study was to examine the relations among health anxiety, NMUPD, and other psychological variables related to substance use.
Methods: In the present study, young adult college students (N = 758), ages 18–25, completed an anonymous online survey assessing demographics, health anxiety, NMUPD, and other psychological characteristics, including depression and general anxiety.
Results: Participants who reported NMUPD had higher scores in health anxiety, as well as more frequent healthcare appointments, and were more likely to report having a chronic health condition. Given that multiple factors influence a decision to engage in NMUPD, a multivariable logistic regression analysis was performed. Results suggested that hopelessness, sensation-seeking, and health anxiety were risk factors for NMUPD, and that health anxiety predicted NMUPD over and above these other variables.
Conclusions: Medical professionals and mental health service providers should be aware of the increased risk of NMUPD for patients with health anxiety. Future research on NMUPD should more closely examine the role of health anxiety.

1. Introduction

Research has demonstrated that elevated health anxiety (i.e., hypochondriasis), excessive preoccupation about health and illness, is associated with substance use (Palmer & Daiss, 2005; Demir, Mercan, Ulug, & Batur, 2002). However, this relation has not typically been the focus of research, and prior work has examined this relation with traditional recreational substances (e.g., alcohol) (Palmer & Daiss, 2005; Demir et al., 2002). In recent years, there has been a dramatic increase in the misuse or non-medical use of prescription drugs (NMUPD; i.e., without a doctor's prescription), especially among young adults. For the purposes of the current paper, the terms "misuse" and "NMUPD" will be used interchangeably to describe using a prescription medication without a doctor's prescription (e.g., obtaining medication from a friend).

In 2012, young adults in the United States were more likely to misuse prescription drugs than to use any illicit substances except marijuana, with 5.3% reporting current use (Substance Abuse and Mental Health Services Administration, 2013). NMUPD now accounts for more emergency room visits than all illicit substances combined (Substance Abuse and Mental Health Services Administration, 2012a). Cabriales, Cooper, and Taylor (2013) found that positive attitudes toward prescription drug use and higher anxiety predict prescription drug misuse (Cabriales et al., 2013). Motives for NMUPD include pain relief, to feel good or get high, and as a distractor from problems (McCabe & Cranford, 2012; McCabe, West, & Boyd, 2013). As McCabe,

* Corresponding author. Tel.: +1 804 828 0133; fax: +1 804 828 2237.
E-mail address: ebenotsch@vcu.edu (E.G. Benotsch).

http://dx.doi.org/10.1016/j.addbeh.2015.06.012
0306-4603/

Boyd, and Teter (2009) point out, prior research has demonstrated that motives for NMUPD can typically be classified into two larger categories: self-treatment and recreational use (McCabe et al., 2009). As such, to better comprehend the risks of NMUPD, it is important to fully understand the various motives within these broader categories (McCabe et al., 2009). Some motives for NMUPD are consistent with Khantzian's self-medication hypothesis (i.e., self-treatment), which posits that an individual engages in drug use because the drug reduces distress (Khantzian, 1997).

Indeed, research has demonstrated a relation between NMUPD and distress, as well as negative affect. In 2010, Hall and colleagues found that adolescents who misused prescription sedatives/anxiolytics reported higher levels of depression, anxiety, and somatization (Hall, Howard, & McCabe, 2010). Zullig and Divin (2012) found that depressive symptomatology was associated with greater odds of engaging in NMUPD among college students (Zullig & Divin, 2012). Additionally, Benotsch, Zimmerman, Cathers, et al. (2013) found that NMUPD was related to self-reported symptoms of anxiety, depression, and somatic distress among transgender adults (Benotsch, Zimmerman, Cathers, et al., 2013). Results suggest that individuals may be using prescription medications to self-medicate.

Due to the wide misperception that prescription drugs are safe and the ease of obtaining these substances (National Institute on Drug Abuse, 2013), it is not surprising that some individuals may misuse a prescription drug as a way of self-medicating. Further, an individual with health anxiety may be at heightened risk for engaging in NMUPD due to obsessive worrying about health (Wattar, Sorensen, Buemann, et al., 2005). Individuals may feel they need the medication for alleviating symptoms of their perceived illness despite a doctor's reassurance they are fine (Salkovskis & Warwick, 1986). Persons with health anxiety may misuse prescription drugs to relieve physical symptoms, and/or to relieve distress caused by worrying (Wattar et al., 2005). However, prior research has not examined NMUPD and its relation to health anxiety.

The purpose of the current study was to examine the relations among health anxiety, NMUPD, and other psychological variables related to substance use in a young adult sample. The aim was to determine if health anxiety added incremental predictive power beyond variables already known to be associated with NMUPD (e.g., general anxiety, sensation-seeking). We hypothesized that health anxiety would predict NMUPD over and above these previously-established associations.

2. Method

Data were collected in September–December 2011 from 791 students attending psychology courses at a large urban university. Because we were specifically interested in NMUPD in young adults, data analyses were restricted to individuals who were 18–25 years of age (N = 758), a common age range used for defining young adults (Arnett, 2000). The study was approved by the relevant Institutional Review Board.

2.1. Measures

2.1.1. Demographics

Participants were asked their gender, age, year in school, race/ethnicity, and whether they were a member of a fraternity/sorority. Participants also indicated if they had been diagnosed by a doctor as having one or more chronic health conditions commonly occurring in young adults (Maslow, Haydon, Ford, & Tucker, 2011), had health insurance (Yes/No), and reported the number of times they had an appointment with a health care provider in the past three months. Participants also responded to an item that asked how satisfied they were with their current medical care on a 1 (not at all satisfied) to 10 (extremely satisfied) scale.

2.1.2. Health anxiety (hypochondriasis)

Participants completed the short form of the Health Anxiety Inventory, a well-validated and reliable measure of health anxiety that shows good discriminant validity with other psychiatric conditions (Alberts, Hadjistavropoulos, Jones, & Sharpe, 2013; Salkovskis, Rimes, Warwick, & Clark, 2002). This measure has two subscales: Health Anxiety (worry about health conditions) and Negative Consequences (perceived severity of health conditions). Subscale scores were correlated in the present sample ($r = 0.42$, $p < .001$). The internal consistency in this sample was acceptable for the 14-item Health Anxiety subscale ($\alpha = .85$), the 4-item Negative Consequences subscale ($\alpha = .74$) and for the full scale ($\alpha = .86$).

2.1.3. Other psychological variables

Participants completed the Substance Use Risk Profile scale (Woicik, Stewart, Pihl, & Conrod, 2009), a previously-validated brief measure of four constructs with known associations to substance use: sensation-seeking, impulsivity, hopelessness, and anxiety sensitivity (Benotsch et al., 2015). Internal consistency of the subscales was acceptable in this sample, with alphas ranging from .68 (anxiety sensitivity) to .85 (hopelessness).

Participants also completed the Brief Symptom Inventory-18 (BSI-18), a well-validated measure of three indicators of psychiatric distress: anxiety, depression, and somatic distress (Derogatis, 2001). BSI subscales had adequate internal consistency in the present sample with alphas ranging from 0.84 (somatic distress) to 0.89 (depression). The BSI global severity index (sum of the three subscales) also had adequate internal consistency ($\alpha = .94$). Because of the high degree of relationship between subscale scores (correlations ranging from .62 to .76), the global severity index was used in the multivariable analysis to reduce multicollinearity.

2.1.4. NMUPD

Participants were initially asked to respond to a Yes/No question asking if they had ever used a prescription medication without a doctor's prescription. For participants who answered yes, separate questions asked about the number of times in their lifetime and in the last three months they had used medications without a prescription spanning four classes of drugs: analgesics (e.g., Vicodin), anxiolytics (e.g., Xanax), stimulants typically used to treat attention-deficit disorder (e.g., Adderall), and sedatives (e.g., Ambien). Responses were collapsed across all specific medications, within class, to determine if participants had used that class of medication. Questions similar to these have shown utility in previous research (Benotsch, Jeffers, Snipes, Martin, & Koester, 2013; McCabe & Boyd, 2005).

2.1.5. Data analysis

All surveys were examined for inconsistencies and invalid responses. Data from four participants (0.5%) were excluded for random or problematic responding. We conducted both univariate (t-tests, correlations) and multivariable analyses (logistic regression with all variables entered simultaneously) examining NMUPD and its relation to health anxiety. Two-tailed significance levels were used for all tests.

2.1.6. Participants

Among the 758 participants, the mean age was 18.8 years (SD = 1.2). The sample largely consisted of female participants (64.6%) and the majority of the sample was white (53.4%). Most participants were in their first two years of college: 67% were freshmen, 21% sophomore, 8% junior, 3% senior, and 1% other. Ten percent of participants reported fraternity or sorority membership. Overall, 29.7% of participants indicated they had one or more chronic health conditions, with the most common being asthma (20.3%) and migraines (9.9%). Most participants (89.2%) indicated they were covered by health insurance and had seen a health care provider at least once in the past three months (70.4%), with a mean number of provider visits of 1.5 (SD = 1.9, Median = 1.0). Most