



## Full length article

## Trends and correlates of cocaine use and cocaine use disorder in the United States from 2011 to 2015

William S. John<sup>a,\*</sup>, Li-Tzy Wu<sup>a,b,c,d</sup><sup>a</sup> Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, USA<sup>b</sup> Department of Medicine, Division of General Internal Medicine, Duke University Medical Center, Durham, NC, USA<sup>c</sup> Duke Clinical Research Institute, Duke University Medical Center, Durham, NC, USA<sup>d</sup> Center for Child and Family Policy, Sanford School of Public Policy, Duke University, Durham, NC, USA

## ARTICLE INFO

## Keywords:

Cocaine

Cocaine use disorder

Polydrug use

National Survey on Drug Use and Health

## ABSTRACT

**Background:** Recent epidemiological data suggest a resurgence in cocaine use (CU) and cocaine-related problems in the United States. Demographic trends and correlates of problem CU are needed to determine potential factors that may be influencing the increased trend and to inform targeted prevention and intervention strategies.

**Methods:** Trends in any past-year CU, weekly CU, and cocaine use disorder (CUD) were examined among persons aged  $\geq 12$  years using the National Survey on Drug Use and Health from 2011 to 2015. Logistic regression analyses were used to determine correlates of past-year and weekly CU and CUD among adolescents and adults.

**Results:** The prevalence of past-year CU from 2011 to 2015 increased among females, ages 18–25, ages  $\geq 50$ , non-Hispanic Blacks, and persons reporting low income, past-year tobacco use, past-year alcohol use, and past-month binge and heavy alcohol use. The prevalence of weekly CU increased among persons aged  $\geq 50$  years and persons reporting past-month heavy alcohol use. A significant increase in the prevalence of CUD was only found among persons aged  $\geq 50$  years. Adjusted logistic regression showed that older age, large metropolitan residence, past-year tobacco, alcohol, cannabis, and heroin use, and major depressive episode were associated with increased odds of CU or CUD among both adolescents and adults; however, sex and race/ethnicity correlates differed among adolescents and adults.

**Conclusions:** Findings have implications for increased monitoring of CU-related indicators among some high-risk groups, such as females, older adults, Blacks, and polysubstance users. Targeted screening and intervention strategies among these population subgroups may be needed.

## 1. Introduction

Problem cocaine/crack use is a public health concern associated with high socioeconomic costs (National Drug Intelligence Center, 2016). Past-year prevalence of cocaine use (CU) in the U.S. peaked in the early to mid-1980s (i.e., the “crack-cocaine epidemic”) and then sharply declined in the late 1980s until reaching a low point in 1994 (Johnston et al., 2016). Population levels of past-year CU rose again from the mid-1990s to 2004; however, between 2005 and 2011, annual prevalence appeared to decline again, possibly due to supply-side factors and resulting effects on demand (Caulkins et al., 2015).

Despite the decline in past-year prevalence over the past decade, recent data suggest a resurgence in CU. For instance, the National Survey on Drug Use and Health (NSDUH) indicated an increase in the prevalence of past-year CU by 20% among individuals aged  $\geq 12$  years

from 2011 to 2015 (CBHSQ, 2016). The NSDUH also estimated that 968,000 individuals aged  $\geq 12$  years initiated CU in the past year in 2015, which was higher than any year since 2008 (CBHSQ, 2016). Moreover, data from the Centers for Diseases Control and Prevention (CDC, 2016) indicated that the number of cocaine-related deaths increased each year from 2012 to 2015, and the number in 2015 (6800) was the second highest since 1999.

Data also suggest that the emerging trend in CU may increase even further. For instance, the Office of National Drug Control Policy (ONDCP) estimated that the 2015 cocaine production potential from Columbia, the main source of cocaine consumed in the U.S. (US State Department, 2017), was the largest amount since 2007 and more than double the amount in 2013 (ONDCP, 2016). Hence, more export quality cocaine available for trafficking is expected, which typically reaches U.S. streets 18–24 months after harvest (Ehleringer et al., 2012). An

\* Corresponding author at: Department of Psychiatry and Behavioral Sciences, Division of Social and Community Psychiatry, Duke University Medical Center, Durham, NC, 27701, USA.

E-mail addresses: [william.john@duke.edu](mailto:william.john@duke.edu) (W.S. John), [litzu.wu@duke.edu](mailto:litzu.wu@duke.edu) (L.-T. Wu).

<http://dx.doi.org/10.1016/j.drugalcddep.2017.08.031>

Received 11 June 2017; Received in revised form 25 August 2017; Accepted 25 August 2017

Available online 18 September 2017

0376-8716/ © 2017 Elsevier B.V. All rights reserved.

increase in supply also has implications for increased retail-level purity and lower prices to attract new users (National Drug Intelligence Center, 2016). Thus, early identification of at-risk population subgroups will be critical to inform screening, intervention, and referral to treatment efforts given the potential effects of an increased cocaine supply on prevalence of CU and cocaine-related health risks.

Young adults may be at-risk for cocaine-related problems during this period of resurgence in CU. For instance, the NSDUH estimated that 663,000 young adults aged 18–25 tried cocaine for the first time in 2015, which represented approximately 70% of all individuals who initiated CU that year and was the highest number among young adults since 2008 (CBHSQ, 2016). However, it remains to be determined whether the prevalence of problematic use (i.e., frequent CU) or cocaine use disorder (CUD) also increased among young adults, which may be a better indicator of increased health risks and treatment need. Older adults (i.e., those aged  $\geq 50$  years) also appear to be a high-risk group for cocaine-related problems. The U.S. Treatment Episode Data Set (TEDS) indicated that treatment admissions for CU significantly increased by 230–325% from 1992 to 2005 among older adults (Lofwall et al., 2008); however, it is unclear whether there has been an increase in the prevalence of problem CU and CUD among older adults.

The literature also suggests that CU is associated with higher risks and distinct consequences as a function of sex, race/ethnicity, and polydrug use. Studies have found that females use cocaine at earlier ages, transition to dependence at faster rates, and have worse cocaine-related social consequences and treatment outcomes than males (Haas and Peters, 2000; McCance-Katz et al., 1999; Nich et al., 2004; Dackis et al., 2012; Siqueland et al., 2002). Some data suggest sex differences in the sensitivity to the reinforcing effects of cocaine, psychiatric comorbidities, or brain-behavior relationships may be attributable (Lynch et al., 2002; Suh et al., 2008; van der Plas et al., 2009). Regarding race/ethnicity, Blacks appear to be disproportionately affected by CU. The TEDS indicated that 46% of treatment admissions primarily for CU in 2015 were Blacks, compared to 36% that were Whites and 13% that were Hispanics (SAMHSA, 2017). Research has also shown that Blacks, compared to other racial/ethnic groups, transition to cocaine dependence faster after first use, are more likely to have severe medical sequelae of CU (e.g., HIV, intracerebral hemorrhages), and worse treatment outcomes (Milligan et al., 2004; Montgomery et al., 2011, 2012, 2015; Martin-Schild et al., 2010; Tobin et al., 2011). Racial/ethnic differences in acculturative stress, discrimination, social capital, route of cocaine administration, or cocaine availability may be contributing factors (Gibbons et al., 2004; Fothergill et al., 2009; Lillie-Blanton et al., 1993). Moreover, cocaine is often used with alcohol, tobacco, marijuana, or opioids to increase subjective reinforcing effects of either drug alone (Farré et al., 1997; Leri et al., 2003). However, CU with other substances is associated with greater severity of use and likelihood of overdose, more treatment admissions, and worse treatment outcomes compared to the use of cocaine alone (Anderson et al., 2009; Kampman et al., 2015; McCall Jones et al., 2017). Taken together, it is important to identify and monitor population subgroups showing an increase in CU and CUD.

Here, we used data from national samples of the NSDUH to examine demographic trends in past-year CU, weekly CU ( $\geq 52$  days/year), and CUD from 2011 to 2015. The NSDUH is particularly advantageous because of its consistent design across the study years and large sample size, which permits analyses among population subgroups. We also examined correlates of CU and CUD. Given that onset of CU during adolescence is associated with greater cocaine-related problems (Jordan and Andersen, 2017), correlates were determined separately for adolescents to inform prevention and intervention efforts for emerging population subgroups.

## 2. Methods

### 2.1. Data source

Data were obtained from public-use data files of the 2011–2015 NSDUH. The annual NSDUH is a cross-sectional survey designed to provide ongoing estimates of the prevalence of substance use and substance use disorders. The NSDUH's target population included civilian, noninstitutionalized persons in the U.S. who were 12 years of age or older at the time of the survey. It used multistage area probability sampling methods for all 50 states and the District of Columbia. NSDUH data collection was conducted in the households of eligible respondents through a combination of computer-assisted personal interviewing conducted by an interviewer and audio computer-assisted self-interviewing for sensitive questions.

A total of 281,242 persons aged  $\geq 12$  years composed the NSDUH sample from 2011 to 2015 ( $N = 55,160$ – $58,397$ /year). Weighted response rates of household screening and interviewing over these years ranged from 80 to 87% and 70–74%, respectively (CBHSQ, 2012, 2016).

### 2.2. Study variables

#### 2.2.1. Demographics

We examined self-reported sex, age, race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, Other (i.e., non-Hispanic Asian-American, non-Hispanic Native-American (American Indian/Alaskanative), non-Hispanic native-Hawaiian/Pacific-Islander, or mixed-race)), total household income (\$0–19,999, \$20,000–49,999, \$50,000–74,999, \$75,000+), and residential location to describe respondents' demographics and to be included as control variables for the association of CU and CUD (Chen and Kandel, 2002; Compton et al., 2000; Palamar et al., 2015). Survey year was included as a categorical variable in the adjusted logistic regression analysis.

#### 2.3. Cocaine use and cocaine use disorder

Self-reported CU included the use of any form of cocaine such as powder, "crack," free base, and coca paste. Respondents were first asked whether they had ever used any form of cocaine. Among those who responded affirmatively, their recency and frequency of use was assessed. Past-year CU was defined as any use during the preceding 12 months from the time of the survey. We created a variable to indicate more frequent CU, which was defined as using cocaine 52 days or more during the past year and was termed "weekly CU."

Among those who reported past-year CU, additional questions were administered to determine whether criteria for cocaine abuse or dependence was met based on DSM-IV criteria (APA, 2000). Criteria for cocaine abuse included the presence of  $\geq 1$  abuse symptoms and absence of dependence. Criteria for cocaine dependence included the presence of  $\geq 3$  dependence symptoms, regardless of abuse status. Past-year CUD was defined as having met criteria for either abuse or dependence during the preceding 12 months.

#### 2.4. Other behavioral health

Past-year tobacco (cigarettes, chewing tobacco, snuff, cigars, pipe tobacco), alcohol, cannabis, and heroin use was determined and included as independent variables. We also included past-year major depressive episode (MDE) as an independent variable. MDE was determined based on DSM-IV criteria, which included separate questions for adolescents and adults (Kessler and Merikangas, 2004; Kessler et al., 2010). A person was defined as having past-year MDE if he/she had five or more of the nine MDE symptoms in the same 2-week period during his/her lifetime and a period of time in the past 12 months when he/she felt depressed or lost interest or pleasure in daily activities for 2 weeks or longer.

Download English Version:

<https://daneshyari.com/en/article/5119878>

Download Persian Version:

<https://daneshyari.com/article/5119878>

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