Probability and predictors of treatment-seeking for substance use disorders in the U.S

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ABSTRACT

Background: Little is known about to what extent treatment-seeking behavior varies across individuals with alcohol abuse, alcohol dependence, drug abuse, and drug dependence.

Methods: The sample included respondents from the Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) who reported a lifetime diagnosis alcohol abuse, alcohol dependence, drug abuse, or drug dependence. Unadjusted and adjusted hazard ratios are presented for time to first treatment contact by sociodemographic characteristics and comorbid psychiatric disorders. Individuals were censored from the analyses if their condition remitted prior to seeking treatment.

Results: In the first year after disorder onset, rates of treatment-seeking were 13% for drug dependence, 5% for alcohol dependence, 2% for drug abuse, and 1% for alcohol abuse. The lifetime probability of seeking treatment among individuals who did not remit was also highest for drug dependence (90%), followed by drug abuse (60%), alcohol dependence (54%), and alcohol abuse (16%). Having had previous treatment contact for a substance use disorder (SUD) increased the probability of seeking treatment for another SUD. By contrast, an early age of SUD onset, belonging to an older cohort, and a higher level of education decreased the lifetime probability of treatment contact for SUD. The role of comorbid mental disorders was more complex, with some disorders increasing and other decreasing the probability of seeking treatment.

Conclusions: Given high rates of SUD and their substantial health and economic burden, these patterns suggest the need for innovative approaches to increase treatment access for individuals with SUD.

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1. Introduction

Substance use disorders (SUDs) are pervasive in the general population and result in critical threats to health and well-being, substantial family distress, and a massive societal economic burden (Blanco et al., 2013c; Compton et al., 2007; Hasin et al., 2007; Mokdad et al., 2004; Rubio et al., 2014, 2013). Alcohol consumption ranks third among preventable causes of death (Mokdad et al., 2004) and drug offenses are the leading cause of incarceration with half of federal inmates reporting illegal drug use in the month before their offense (Mumola and Karberg, 2004). Illicit drug use accounts for nearly two hundred billion dollars each year in health care, lost productivity, incarceration, and drug enforcement costs (NDIC, 2014).

Despite their high prevalence and numerous associated adverse health consequences (Aharonovich et al., 2002; Blanco et al., 2014b; Degenhardt and Hall, 2012; García-Rodrígueza et al., 2014), many individuals with SUD do not receive treatment (Blanco et al., 2013a; Compton et al., 2007; Edlund et al., 2012; Hasin et al., 2007; Kessler et al., 1999; Olfson et al., 1998; Regier et al., 1993). The great extent of unmet need for substance abuse treatment underscores the critical public health importance of understanding factors that promote the flow of individuals with SUDs into treatment. Although there are important differences between perceived and objective need for substance abuse treatment (Mojtabai et al., 2002), quality of life substantially declines following the onset of SUD (Rubio et al., 2014). Because individuals with SUDs who receive treatment increase their likelihood of remission and decrease their likelihood of developing new SUDs, increasing access to SUD treatment tends to improve outcome (Blanco et al., 2014a). Of course, SUD treatment

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is often court mandated or occurs following the pressure exerted by friends or family members (Cook and Alegria, 2011).

Epidemiological research has sought to identify personal characteristics that either facilitate or impede treatment-seeking for SUD. Among individuals with SUDs, factors that have been associated with lower rates of SUD treatment include an earlier age of SUD onset, being married, membership in an older cohort, minority racial/ethnic ancestry, and having attained less than a high school education (Alegria et al., 2002; Gee et al., 2007; Grant, 1996; Sue et al., 1991; Sussman et al., 1987; Wang et al., 2005, 2004, 2002). Although adults with SUDs commonly have comorbid of Axis II and other Axis I psychiatric disorders (Armstrong and Costello, 2002; Blanco et al., 2013b, 2015; Havassy et al., 2004; Kessler et al., 1997; Merikangas et al., 1998; Mertens et al., 2003), the effect of psychiatric comorbidity on treatment-seeking for SUD has not been previously examined. Furthermore, despite wide variation in prevalence, severity, and associated adverse consequences (Compton et al., 2007; Hasin et al., 2007), differences in treatment-seeking behavior of people with alcohol abuse, alcohol dependence, drug abuse, and drug dependence have not been extensively characterized (Wang et al., 2005).

This study draws on data from a large nationally representative sample of US adults with SUD to evaluate treatment-seeking for SUDs. Our goal is to assess the effects of type of SUD, treatment history, comorbid psychiatric disorders, and sociodemographic characteristics lifetime probability of SUD treatment.

2. Methods

2.1. Sample

The 2004–2005 Wave 2 NESARC (Grant et al., 2007b) is the second wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (Grant et al., 2003a). The target population was the civilian non-institutionalized population, 18 years and older residing in households and group quarters (e.g., college quarters, group homes, boarding houses, and non-transient hotels). In Wave 2, attempts were made to conduct face-to-face re-interviews with all 43,093 respondents to the Wave 1 interview. Excluding respondents ineligible for the Wave 2 interview (e.g., deceased), the Wave 2 response rate was 86.7%; thus, 34,653 respondents completed Wave 2 interviews. Sample weights were developed to additionally adjust to Wave 2 non-response (Ruan et al., 2008). Comparisons between Wave 2 respondents and the target population (comprising Wave 2 respondents and eligible non-respondents) indicated that there were no significant differences in baseline (Wave 1) sociodemographic measures or the presence of any lifetime substance, mood, anxiety, or personality disorder (Grant et al., 2007a).

2.2. Assessment

Extensive AUDADIS-IV questions probed DSM-IV criteria for alcohol and drug-specific abuse and dependence for 10 classes of substances, aggregated in this report to yield diagnoses of any drug abuse and any drug dependence (Compton et al., 2007). Among individuals with drug abuse, the most commonly abused drugs were cannabis (77.8% of individuals), cocaine (19.5%), and hallucinogens (15.3%), whereas among those with dependence, the most common drugs were cannabis (51.6%), cocaine (35.0%), and amphetamine (21.1%). Good to excellent ($k = 0.70$–0.91) test–retest reliability of AUDADIS-IV SUD diagnoses have been documented in clinical and general population samples (Canino et al., 1999; Chatterji et al., 1997; Grant et al., 2003b, 1995; Hasin et al., 1997a). Convergent, discriminant and construct validity of AUDADIS-IV SUD criteria, and diagnoses were good to excellent (Cottler et al., 1997; Hasin et al., 1997b; Hasin and Paykin, 1999; Hasin et al., 1990, 1994, 2003, 1997c; Nelson et al., 1999; Pull et al., 1997; Ustun et al., 1997; Vrasti et al., 1998).

2.3. Statistical Analyses

Weighted cross-tabulations were used to calculate the proportion of respondents with lifetime alcohol abuse, alcohol dependence, drug abuse, and drug dependence who had ever sought treatment for their disorder. The tabulations were stratified by sociodemographic and clinical characteristics. Kaplan–Meier analyses were conducted to estimate the cumulative probability of treatment-seeking for each disorder. For all analyses, consistent with DSM-IV, abuse and dependence were treated hierarchically.

To assess the effects of sociodemographic and clinical characteristics on probability of SUD treatment contact among those with lifetime diagnoses of SUD, Cox proportional hazards models with time-varying covariates were performed. Retrospective follow-up time started at age of disorder onset and terminated at age of first treatment contact or remission of the disorder. The probabilities of treatment-seeking for alcohol abuse, alcohol dependence, drug abuse, and drug dependence were first modeled separately for each individual sociodemographic and diagnostic predictor and again in a single model that controlled for the potentially confounding effects of sex, race/ethnicity, nativity, age at disorder onset, education years, marital status, and each of the other Axis I and II categories. Comorbid mental disorders, marital status, and educational level were also added as time varying variables. Comorbid disorders were coded as absent until their first occurrence, and then coded as present until the observation was censored. Marital status was coded as single until the individual was married for the first time (or coded as single until the observation was censored) and then modified each year the individual changed marital status. For each participant, a maximum of two changes were coded, including the first and most recent change in marital status. Educational level was coded as starting at age six and increasing each year by one until the highest level of education was achieved. For example, an individual completing high school would be coded starting at age six with one additional year of education until age 18.

Personality disorders were coded as lifetime disorders with onset at age 18. The variance inflation factor (VIF) was used to assess possible collinearity among the variables included in the multivariable models. For all analyses, individuals were censored at the time of remission if remission occurred before seeking treatment. Results are reported as hazard ratios and adjusted hazard ratios with associated 95% confidence intervals (95% CI). Standard errors and 95% CI for all analyses were estimated using SUDAAN to adjust for the complex design of the NESARC.

3. Results

3.1. Cumulative lifetime probability of treatment-seeking for substance use disorders

Regardless of the timeframe considered (one year after disorder onset, first 10 years after onset, or lifetime), the probability of treatment-seeking was highest for drug dependence followed by alcohol dependence, drug abuse, and alcohol abuse. In the first year after disorder onset, rates of treatment-seeking among individuals who did not remit were 13% for drug dependence, 5% for alcohol dependence, 2% for drug abuse, and 1% for alcohol abuse. After 10 years, the highest rates of seeking treatment continued to be among those with drug dependence (43%) followed by those with alcohol dependence (19%). Less common was the treatment seeking for drug abuse (14%) and for alcohol abuse (5%). The lifetime probability of seeking treatment among individuals who did not remit was also highest for those with drug dependence (90%), followed by drug abuse (60%), alcohol dependence (54%), and alcohol abuse (16%). Among those who sought treatment, the midpoints in the cumulative probability distributions were 12 years for drug dependence, 18 years for alcohol dependence, 20 years for alcohol abuse, and 23 years for drug abuse (Fig. 1).

3.2. Univariate Analyses

In the univariate analyses, an increased likelihood of treatment across for all disorders was related to later onset of disorder, belonging to a more recent cohort, having never been married, and having sought treatment previously for another mental or substance use disorder. Having a change in marital status increased the probability of treatment across all disorders except alcohol abuse, whereas having less than a high school education and being widowed, separated or divorced, increased the probability of treatment for all disorders except for drug dependence. Being Black, Hispanic, or foreign-born increased the likelihood of treatment for alcohol abuse. Males had a greater probability of treatment than females for alcohol abuse, but a decreased probability compared with females of treatment for drug abuse (Table 1).

Most comorbid Axis I disorders increased the probability of treatment for alcohol dependence, drug abuse, and dependence.