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Comparison of the course of substance use disorders among individuals with and without generalized anxiety disorder in a nationally representative sample

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ABSTRACT

Generalized anxiety disorder (GAD) and substance use disorders (SUDs) are highly comorbid, and GAD–SUD comorbidity is associated with a host of poor psychosocial outcomes, including higher rates of hospitalization, disability, functional impairment, and inferior GAD and SUD treatment outcomes. Despite the noted severity of this group and clinical implications, current research is limited in a few distinct ways; studies have rarely utilized a longitudinal design and non-treatment seeking individuals to examine how GAD comorbidity impacts SUD outcomes over time. The current study utilized a nationally representative sample of individuals in the U.S. assessed in the National Epidemiological Survey on Alcohol and Related Conditions (NESARC) at Wave 1 (2001–2002) and Wave 2 (2004–2005), comparing individuals who met criteria for both DSM-IV past year GAD and SUD ($n = 286$) and those who met criteria for past year SUD only without GAD ($n = 5730$) at Wave 1. Results indicated that GAD–SUD individuals were significantly more severe than the SUD only group across almost all outcomes assessed (with the exception of alcohol frequency); individuals with GAD–SUD had a more severe psychiatric history, worse health-related quality of life at both waves, greater incidence of new Axis I disorders, higher rates of treatment seeking, and greater self-reported drug use at the follow up. The current study is the first to compare individuals with SUD with and without comorbid GAD over time using a nationally representative sample. Findings further support the clinical severity of this group and suggest the need for GAD–SUD treatment options.

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1. Introduction

Generalized anxiety disorder (GAD) and substance use disorders (SUDs) are highly comorbid (Conway et al., 2006; Grant et al., 2004, 2005; Kessler et al., 2005), and individuals with GAD–SUD comorbidity have significantly worse outcomes than single-diagnosis counterparts (Smith and Book, 2010). The presence of co-occurring GAD is associated with heavy drinking, poor social adjustment and functioning, greater disability, and frequent hospitalizations (Burns et al., 2005; Grant et al., 2005). Comorbid GAD, particularly excessive worry, also significantly interferes with substance abuse treatment (Smith and Book, 2010). Compared to other anxiety disorders, GAD seems to be more strongly related to current substance use and associated with greater levels of impairment. In an examination of the relationship between 12-month drug dependence and commonly co-occurring anxiety disorders (i.e., GAD, panic disorder with and without agoraphobia, social phobia, specific phobia), only GAD was significantly related to 12-month drug dependence (as opposed to the other anxiety disorders), even after controlling for other comorbid psychiatric disorders (Compton et al., 2007). Further, even in its pure form, GAD is associated with significantly higher rates of disability and impairment compared to other anxiety disorders (Grant et al., 2005). GAD–SUD comorbidity clearly represents a significant clinical challenge due to the severity of symptoms and poor treatment response.

Despite the clinical implications of GAD–SUD comorbidity, a few limitations have hindered research in this area including: (1) studies have largely focused on anxiety disorders more generally and their co-occurrence with SUDs, rather than focusing more exclusively on GAD to enable specificity of understanding (cf., Alegria et al., 2010; Grant et al., 2005); and (2) research has been somewhat narrowly focused on clinical samples (Bruce et al., 2005; Smith and Book, 2010). As one step to address these limitations, Alegria et al. (2010) examined psychiatric comorbidity and other clinical correlates in a sample of individuals with GAD, comparing those with and without SUD. The study found that individuals with

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GAD–SUD demonstrated higher levels of comorbidity, substance use, and disability. This cross-sectional study highlighted the severity of the GAD–SUD group and suggested the need for longitudinal studies to examine outcomes over time. A second important future direction included testing how comorbid GAD affects substance use outcomes, as studies have largely focused on how SUD comorbidity affects GAD outcomes (Alegria et al., 2010; Bruce et al., 2005).

The current study aims to build on the prior literature to gain a clearer understanding of how GAD impacts psychosocial and treatment outcomes over time among individuals with SUD. We used a nationally representative sample of individuals in the U.S. assessed in the National Epidemiological Survey on Alcohol and Related Conditions (NESARC) at both Wave 1 (2001–2002) and Wave 2 (2004–2005). Specifically, we compared individuals with an SUD only diagnosis at Wave 1 to those with an SUD–GAD diagnosis at Wave 1. We first compared the lifetime prevalence of psychiatric disorders at Wave 1 across groups. Next, we compared the following from Wave 1 to Wave 2 across both groups: (1) the incidence of Axis I psychiatric disorders; (2) changes in health-related quality of life; and (3) treatment utilization. Finally, we also compared substance use frequency and severity at Wave 2 across groups.

2. Materials and methods

2.1. Participants and procedure

Participants were 6016 respondents assessed in the NESARC at both Wave 1 (2001–2002) and Wave 2 (2004–2005) who were diagnosed with current alcohol use disorder (AUD) or SUD at Wave 1 (with or without current GAD). The NESARC target population consisted of civilian, noninstitutionalized adult individuals over 18 years of age residing in households and group quarters. The survey included individuals residing the continental United States, District of Columbia, Alaska, and Hawaii. African Americans, Hispanics, and individuals aged 18–24 years of age were oversampled, and data were adjusted to reflect design characteristics of the NESARC survey and to account for oversampling and nonresponse. Face-to-face interviews were conducted by lay interviewers with extensive training and supervision (Grant et al., 2004, 2009). The research protocol and informed consent given to all respondents prior to interviews were approved the U.S. Census Bureau and the U.S. Office of Management and Budget and were in line with the latest version of the Declaration of Helsinki. Informed consent was obtained after the study procedures were fully explained. The Wave 2 interview was conducted approximately 3 years later (mean interval: 36.6 months). Excluding ineligible respondents (e.g., deceased), the Wave 2 response rate was 86.7%, resulting in 34,653 completed interviews. Sample weights were also developed to adjust for Wave 2 nonresponse (Grant et al., 2009). In Wave 1, a total of 351 respondents met criteria for both DSM-IV generalized anxiety disorder (GAD) and substance use disorder (SUD), and 7074 met criteria for SUD only. Of these, 6016 participated in Wave 2 (GAD–SUD = 286; SUD only = 5730) and constitute the sample of the present study.

2.2. Assessments

The diagnostic interview used to determine DSM-IV axis I and II disorders was the Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV Version (AUDADIS-IV; Grant et al., 2001). The AUDADIS-IV is a structured diagnostic interview designed for lay professional interviewers to measure substance use and mental disorders in large-scale surveys. Computer algorithms were used to diagnose all DSM-IV axis I and II disorders.

Across all Axis I disorders assessed at Wave 1, criteria were assessed according to two time frames: 1) current (past 12 months); and 2) prior to the past 12 months. At Wave 2, criteria for all Axis I disorders were assessed spanning the time period in between Waves 1 and 2, again distinguishing two distinct time frames: 1) current (past 12 months); and 2) prior to the last 12 months but since Wave 1. Test-retest reliability and validity of the AUDADIS-IV measures of the DSM-IV disorders are adequate and have been reported in detail elsewhere (Canino et al., 1999; Compton et al., 2005; Cottler et al., 1997; Grant et al., 2004, 2005).

2.3. Substance use disorders (SUDs)

The AUDADIS-IV operationalizes DSM-IV criteria for alcohol and drug abuse and dependence for 10 drug classes (aggregated in this report) (Grant et al., 2004). Consistent with the DSM-IV, diagnoses of alcohol and substance abuse using the AUDADIS-IV require at least 1 of the 4 abuse criteria either in the 12-month period preceding the interview or prior. For dependence (alcohol and other substances), diagnoses require at least 3 of the 7 DSM-IV criteria for dependence during the past 12 months or prior; for the prior diagnoses, the 3 dependence criteria must have occurred within a 1-year period, as outlined in the DSM-IV. We subdivided the sample of individuals with SUD between those with current GAD comorbidity at Wave 1 (GAD–SUD) and those without current GAD comorbidity at Wave 1 (SUD only). The assessment of GAD is described in more detail in the following section. The AUDADIS-IV has shown good to excellent inter-rater and test-retest reliability ($k = 0.70–0.84$) and validity (Canino et al., 1999) for SUD diagnoses.

2.4. Generalized anxiety disorder (GAD)

DSM-IV GAD was diagnosed when individuals reported excessive anxiety and worry across a number of events or activities more days than not for at least 6 months, accompanied by difficulty controlling worry and at least 3 of the other 6 DSM-IV GAD symptoms, including the clinical significance criterion to be met (i.e., the symptoms caused clinically significant distress or impairment). The DSM-IV GAD diagnosis excludes substance-induced episodes or episodes due to a general medical condition. To differentiate between substance-induced and independent disorders, the AUDADIS-IV uses specific questions about chronological relationships between intoxication, withdrawal effects, and anxiety symptoms, which has been shown to improve reliability and validity of anxiety disorder diagnoses among substance using individuals (Hasin et al., 2006). Test-retest reliability, as reported in detail elsewhere (Canino et al., 1999; Grant et al., 2004, 2005), is fair ($k = 0.42$).

2.5. Other mood and anxiety disorders

The AUDADIS-IV was also used to assess other mood (major depressive disorder, dysthymia, bipolar I, bipolar II) and anxiety (panic disorder, social anxiety disorder, specific phobia) diagnoses at Waves 1 and 2. All diagnoses reported were “primary” such that they exclude disorders characterized as “substance induced” or due to a general medical condition, and they all met the clinical significance criterion.

2.6. Personality disorders

The AUDADIS-IV was used to assess all 10 DSM-IV personality disorders in Clusters A, B, and C using algorithms requiring specific