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The impact of comorbid cannabis use disorders on the clinical presentation of social anxiety disorder

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ABSTRACT

Previous research has examined the relationship between social anxiety disorder (SAD) and substance use disorders. Cannabis use disorders (CUDs) are becoming increasingly problematic within the population of individuals with SAD, yet the nature of this comorbidity remains largely unexamined. The aim of the current study from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project was to examine differences between outpatients with SAD with versus without comorbid CUDs. The current study included 873 outpatients with a current diagnosis of SAD. Patients with SAD and comorbid CUDs ($n = 173$) were then compared to those with SAD without CUDs ($n = 700$) on demographic and clinical characteristics. Compared to patients without the comorbidity, patients with comorbid SAD and CUDs were more likely to have a lifetime diagnosis of PTSD and specific phobia and lifetime substance use disorders (including alcohol). SAD patients with comorbid CUDs were also more likely to report better physical health, and fewer limitations related to their physical health. These analyses remained significant after controlling for gender, the presence of other substance use disorders, mood disorders, and other anxiety disorders. Findings of this study suggest that there may be a unique relationship between SAD and CUDs that can potentially impact the clinical presentation of individuals with SAD. Future research is needed to examine the impact of this comorbidity in other patient populations.

1. Introduction

Social anxiety disorder (SAD) is characterized by the marked and persistent fear of social or performance situations in which embarrassment may occur (American Psychiatric Association, 2000). It is estimated that SAD affects up to 13% of the general population, thereby representing one of the four most prevalent psychological disorders in the United States (Kushner et al., 1990; Kessler et al., 2005). SAD is associated with impairment in multiple domains including education, romantic relationships, friendships, employment, and daily activities (Schneier et al., 1994). Individuals with SAD report dissatisfaction in a broad spectrum of areas including family life, friends, leisure activities, and income, and also are more likely to rate themselves as globally "low functioning" compared to individuals without SAD (Stein and Kean, 2000). To compound the already pervasive impairment associated with SAD, the course of the disorder tends to be chronic and unremitting, and is characterized by a mean age of onset of 11 years (Judd, 1994; Dalrymple and Zimmerman, 2008).

SAD is significantly associated with the co-existence of substance use disorders. Swendsen et al. (2009) found that in a nationally representative sample, SAD also was significantly associated with the onset of drug dependence and also was a significant predictor of the onset of drug use among baseline non-users. The largest body of research examining comorbid SAD and substance use disorders focuses on alcohol use disorders (AUDs). For individuals with a lifetime diagnosis of SAD, 48% also met criteria for a lifetime diagnosis of AUD and 13.1% met criteria for an AUD within the past 12 months compared to the 12-month prevalence rate of 8.5% in the general population (Grant et al., 2005). SAD patients with comorbid AUDs report more severe social anxiety, poorer psychosocial functioning, greater health problems, greater healthcare utilization, greater interpersonal stress, and a greater number of other psychiatric diagnoses compared to individuals with SAD without a comorbid AUD (Buckner et al., 2008). AUDs with comorbid SAD are associated with more severe symptoms of alcoholism compared to individuals with AUDs without a comorbid SAD diagnosis (Thomas et al., 1999).

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Although prior research has focused on the relationship between SAD and AUDs, cannabis use disorders (CUDs) within the SAD population are less frequently examined. This is problematic as cannabis dependence is the third most prevalent substance use disorder within the general population after AUDs and nicotine dependence (Anthony et al., 1994). Rates of marijuana use have increased significantly over the course of the past several decades and cannabis currently is the most widely used illicit drug in the world (Murray et al., 2007). Regular marijuana use is associated with a broad range of problems including greater impairment in physical health and increased risk for automobile accident (Sherrill et al., 1991; Ramaekers et al., 2000). Marijuana use also is prospectively associated with legal problems and academic underperformance (Reilly et al., 1998; Fergusson et al., 2003; Horwood et al., 2010). The lifetime prevalence of SAD in the general population is as high as 13%, yet within the population of individuals with cannabis dependence, this prevalence rate increases to 29% (Kessler et al., 2005; Agosti et al., 2002). Data from the National Comorbidity Survey (NCS) indicates that SAD (regardless of sub-type) had the strongest association with cannabis dependence out of any anxiety disorder (Agosti et al., 2002). Within a community sample, SAD at study entry was associated with 6.5 greater odds of cannabis dependence (Buckner et al., 2006b). Significant associations between problematic cannabis use and SAD also have been found in college student samples (Buckner et al., 2007; Buckner and Schmidt, 2008, 2009a,b; Buckner et al., 2011). SAD specifically is correlated with cannabis dependence at rates significantly greater than any other anxiety disorder, indicating that SAD may serve as a specific risk factor for cannabis use disorders (Buckner et al., 2006b).

Research has begun to examine the relationship between CUDs and SAD and the impact of such co-existence. For example, daily cannabis users have reported significantly higher scores on social anxiety than individuals who use cannabis less regularly (Oyefeso, 1991). College students with greater social anxiety symptomatology and elevated social fear also indicated greater marijuana use problems (Buckner et al., 2006a,b; Buckner et al., 2007). A greater understanding of the relationship between problematic cannabis use and SAD also may be important given findings that SAD comorbid with substance use disorders in general is associated with a poorer prognosis, course, and treatment outcome compared to individuals with each disorder separately (Bruce et al., 2005; Driessen et al., 2001).

The goal of the current study from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) Project is to examine the relationship between SAD and CUDs by comparing outpatients who meet criteria for SAD and comorbid CUDs (cannabis abuse and/or cannabis dependence) to those who meet criteria for SAD without CUDs. To our knowledge, this is one of the first studies that examines the impact of this specific comorbidity within a clinical sample, as research on SAD–CUD comorbidity thus far has been conducted almost exclusively on epidemiological and college student samples. Drawing on past research relating problematic cannabis use to Axis I disorders, it was hypothesized that psychiatric outpatients with SAD and comorbid CUDs would have a greater number of other current and lifetime Axis I diagnoses. Problematic cannabis use and CUDs have been linked to higher rates of other anxiety disorders and mood disorders (especially Major Depressive Disorder and bipolar disorder) as well as impulsivity and risky behavior (Crippa et al., 2009; Henquet et al., 2006; Agosti et al., 2002; van Laar et al., 2007; Kashdan and Hofmann, 2008; Innamorati et al., 2008). Related to our hypotheses regarding the higher comorbidity rates of Axis I disorders among patients with the SAD–CUD comorbidity, we also hypothesized that these patients would report more time of out of work in the past 5 years due to psychiatric reasons and lower overall functioning. It was predicted that compared to outpatients without this comorbidity, outpatients with comorbid SAD–CUD would endorse poorer physical health (Sherrill et al., 1991; Hathaway, 2008). Buckner et al. (2011) found that social avoidance was significantly associated with marijuana use problems, therefore it was hypothesized that patients with SAD–CUD would report poorer adolescent and current psychosocial functioning compared to SAD patients without CUD. Due to the relatively young age of onset of SAD (Dalrymple and Zimmerman, 2008), it also was predicted that SAD would have a lower mean age of onset than CUD in patients with this comorbidity. Based on results from Zvolensky et al. (2006) that found an earlier age of onset of anxiety (specifically of panic attacks) among individuals who also used cannabis regularly, it also was hypothesized that patients with comorbid SAD and CUD would have a significantly lower mean age of onset for SAD compared to SAD patients without CUD.

2. Methods

2.1. Participants

Participants included 3200 psychiatric outpatients seeking treatment at the Rhode Island Hospital Department of Psychiatry. Of these patients, 873 (27.3%) met DSM-IV-TR criteria for a current diagnosis of SAD. Within the sample of SAD patients, the majority was female, Caucasian, married or never married, and had a high school degree (see Table 1). Of the patients who met criteria for a current diagnosis of SAD, 173 (19.8%) also met criteria for current or past CUDs (abuse or dependence), making CUDs the second most prevalent class of substance use disorders, following AUDs and not including nicotine dependence.

2.2. Procedures

The MIDAS project consists of the integration of research methodology into a community-based outpatient practice, affiliated with an academic medical center. This private practice group predominantly treats individuals with medical insurance (including Medicare, but not Medicaid) on a fee-for-service basis, and is distinct from the hospital's outpatient residency training clinic that treats lower income, uninsured individuals. Patients undergo a comprehensive diagnostic interview prior to meeting with their treating clinician, and complete a battery of questionnaires prior to initiating treatment. Informed consent was obtained prior to the administration of the Structured Clinical Interview for the DSM-IV (SCID; First et al., 1996). All procedures were approved by the Institutional Review Board at Rhode Island Hospital.

Diagnostic raters were doctoral level clinical psychologists and research assistants with bachelor's degrees in the social or biological sciences. Research assistants received 3–4 months of training during which they observed at least 20 evaluations and were supervised while administering 20 evaluations. Clinical psychologists observed 5 interviews and were observed in their administration of 15–20 interviews. During diagnostic training, every interview was reviewed on an item-by-item basis by the senior rater who observed the evaluation. At the end of the training period, new raters were required to demonstrate exact, or near exact, agreement with a senior diagnostic rater on five consecutive interviews. Throughout the project, ongoing supervision of the diagnostic raters consisted of weekly case conferences involving all members of the research group and the review of item ratings of all cases by MZ. Joint-interview diagnostic reliability was collected on 65 patients as an ongoing part of the MIDAS project and interrater reliability was demonstrated to be high for Axis I diagnoses (Dalrymple and Zimmerman, 2011; Zimmerman et al., 2011)