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Research report

The effect of comorbid major depressive disorder or bipolar disorder on cognitive behavioral therapy for social anxiety disorder

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ABSTRACT

Background: Major depressive disorder (MDD) and bipolar disorder (BD) commonly co-occur in individuals with social anxiety disorder (SAD), yet whether these comorbidities influence the outcomes of cognitive behavioral therapy (CBT) for SAD is unclear.
Methods: The present study examined the degree to which individuals with SAD and comorbid MDD (SAD+MDD; $n=76$), comorbid BD (SAD+BD; $n=19$), a comorbid anxiety disorder (SAD+ANX; $n=27$), or no comorbid diagnoses (SAD+NCO; $n=41$) benefitted from CBT for SAD. Individuals were screened using the *Structured Clinical Interview for DSM-IV* and then completed the *Social Phobia Inventory* and the *Depression Anxiety Stress Scales* before and after 12-weeks of group CBT for SAD.
Results: At pretreatment the SAD+MDD and SAD+BD groups reported higher social anxiety symptoms than the SAD+ANX and SAD+NCO groups. All groups reported large and significant improvement in social anxiety with CBT. However, at posttreatment the SAD+MDD and SAD+BD groups continued to have higher social anxiety symptoms than the SAD+NCO group, and the SAD+ANX group did not differ in social anxiety symptoms from any group. The sample also showed small and statistically significant improvement in depressive symptoms with CBT for SAD.
Limitations: Information about medication was not collected in the present study, and we did not assess the long-term effects of CBT.
Conclusion: Our results suggest that CBT for SAD is an effective treatment even in the presence of comorbid mood disorders in the short-term, although extending the course of treatment may be helpful for this population and should be investigated in future research.

1. Introduction

Social anxiety disorder (SAD) is characterized by excessive and persistent fear in social or performance situations (American Psychiatric Association, 2013). It is one of the most common psychological disorders, with an estimated lifetime prevalence rate of 12.1% (Kessler et al., 2005). SAD is also associated with low quality of life and functional impairment in the domains of work, education, and relationships (Aderka et al., 2012; Antony et al., 1998b). Furthermore, mood disorders occur at high rates in individuals with SAD. Specifically, 19.5–32% of individuals with SAD have co-occurring major depressive disorder (MDD; Huppert, 2009; Ohayon and Schatzberg, 2010) and 3–21.1% of outpatients with SAD have comorbid bipolar disorder (Koyuncu et al., 2014; Perugi et al., 1999; Van Ameringen et al., 1991). This is concerning in light of prior research demonstrating that comorbid mood disorders are associated with more severe social anxiety symptoms and functional impairment in individuals with SAD (Aderka et al., 2012; Fracalanza et al., 2011; Koyuncu et al., 2014). Given these findings, it is important to understand the impact of comorbid MDD and bipolar disorder on the outcomes of cognitive behavioral therapy (CBT) for SAD, especially since CBT is recommended as part of first line treatment for these populations (Swinson et al., 2006).

Only a handful of prior studies have investigated the degree to which comorbid depressive symptoms influence the outcomes of psychological treatment for SAD, and the results have been conflicting. Some studies have found that individuals with more severe depressive symptoms are less likely to benefit from CBT for SAD in the short term (Chambless et al., 1997; Ledley et al., 2005),

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or to maintain their gains in the longer term (Marom et al., 2009), while other studies have suggested that depressive symptoms do not have a detrimental effect on the outcomes of SAD treatment. For example, Erwin et al. (2002) found that although socially anxious people with comorbid MDD or dysthymic disorder reported more severe social anxiety and depressive symptoms prior to and following treatment, they improved with CBT to the same extent as socially anxious individuals without a comorbid depressive disorder. Furthermore, there are studies that have found that comorbid MDD affects neither the initial severity of anxiety symptoms nor improvement during CBT for SAD (Joormann et al., 2005; Van Velzen et al., 1997). Therefore, the impact of depressive symptoms on CBT for SAD is unclear (see Bauer et al., 2012 for a detailed review), and further research in this area is needed.

In addition, to the best of our knowledge, there have been no prior empirical investigations on the degree to which CBT for SAD is an effective treatment in the presence of comorbid bipolar disorder, characterized by depressive and manic or hypomanic episodes (American Psychiatric Association, 2013). Studies that address this question are sorely needed, as CBT for social anxiety is commonly provided to individuals with comorbid bipolar disorder in practice, despite the lack of data on how helpful this is. Examining how bipolar disorder impacts CBT for SAD is of particular interest as social anxiety disorder was found to be the most common anxiety disorder in a sample of anxious individuals with comorbid bipolar disorder (Fracalanza et al., 2011). Overall, investigating the degree to which comorbid MDD or bipolar disorder impact the outcomes of CBT for SAD is an essential step in determining how to optimally address social anxiety symptoms when mood disorders are present.

The primary goal of the present study was to investigate changes in social anxiety symptoms with CBT for SAD in individuals with comorbid MDD or bipolar disorder relative to two comparison groups – individuals with one or more comorbid anxiety disorder and individuals with no comorbid diagnoses. Hypotheses about whether these groups would report differential levels of improvement in SAD symptoms with CBT were not proposed, since findings on the effect of comorbid MDD on CBT for SAD have been mixed, and no prior study has examined the impact of comorbid bipolar disorder on CBT for SAD. The present study also sought to determine the impact of CBT for SAD on depressive symptoms and the degree to which initial depressive symptom severity is associated with improvement in social anxiety with CBT.

2. Method

2.1. Participants

A total of 214 individuals completed group CBT for SAD at the Anxiety Treatment and Research Centre (ATRC), an outpatient clinic in a large community hospital located in Hamilton, Ontario, Canada between 2001 and 2011. Individuals were included in the present study if they had a current principal diagnosis of SAD, as determined by the *Structured Clinical Interview for DSM-IV* (SCID-IV) and: comorbid MDD (SAD+MDD group; $n=76$); comorbid bipolar disorder (SAD+BD group; $n=19$); one or more comorbid anxiety disorder (SAD+ANX group; $n=27$); or no comorbid diagnoses (SAD+NCO group; $n=41$). Within the SAD+BD group, 53% had bipolar I disorder, and 47% had bipolar II disorder, and the results of the SCID-IV indicated that there were no manic or hypomanic symptoms present at the time of the assessment. There were 51 individuals excluded from the present study. Three individuals were excluded because their SPIN scores were 2.5 or more standard deviations below the sample mean and were considered outliers (King et al., 2011). Individuals were also excluded from the current study if diagnostic criteria were met for: MDD in partial or full remission ($n=19$); a comorbid disorder other than MDD, bipolar disorder or an anxiety disorder (e.g., comorbid substance use disorder; $n=12$); dysthymic disorder ($n=9$); depressive disorder not otherwise specified ($n=5$); schizoaffective disorder ($n=2$); or a mood disorder due to a general medical condition ($n=1$).

The present sample was comprised of 77 males and 86 females, most of whom (85%) identified as Caucasian. The average age of participants was 35 ($SD=12.02$). In terms of marital status, 60% of participants were single, 34% were married or co-habiting, and 6% were divorced or widowed. Most participants (64%) had started or completed college or university. The average age of SAD onset in the present sample was 12 ($SD=7.99$), and the mean number of comorbid diagnoses was 1.91 ($SD=1.67$). More information about demographics by group can be found in Table 1, and information about demographic differences between groups can be found in the results section.

2.2. Measures

2.2.1. SCID-IV (First et al., 1996)

The SCID-IV is a clinician-administered semistructured interview that assesses the DSM-IV criteria for Axis I disorders. Earlier versions of the SCID have demonstrated good interrater reliability (Segal et al., 1994; Williams et al., 1992), adequate test–retest reliability (Williams et al., 1992), and high criterion-related validity for most disorders in clinical samples.

2.2.2. Social Phobia Inventory (SPIN; Connor et al., 2000)

The SPIN is a 17-item measure comprised of items that assess various aspects of social anxiety, including fear, avoidance, and physiological arousal. Respondents indicate the degree to which they have been bothered by these symptoms in various types of social or performance situations over the past week on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely). Examples of items are: “Parties and social events scare me” and “I avoid having to give speeches.” The SPIN has high internal consistency ($\alpha=.92$), good test–retest reliability ($r=.86$), and good convergent and discriminant validity (Antony et al., 2006). The SPIN has also demonstrated sensitivity to changes following group CBT for SAD (Antony et al., 2006). It is of note that a score of 19 or greater on the SPIN has been used to identify individuals with SAD in previous research (Connor et al., 2000), and 95% of the present sample produced SPIN scores above this cutoff.

2.2.3. Depression Anxiety Stress Scales, 21-item version (DASS-21; Lovibond and Lovibond, 1995a)

The DASS-21 is comprised of three 7-item subscales that assess symptoms of depression, anxiety, and stress. For the purpose of the present study, only the depression subscale (DASS-D) was used. On the DASS-D respondents indicate the degree to which each statement about depressive symptoms applied to them over the past week on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much). Examples of items are: “I couldn't seem to experience any positive feeling at all” and “I felt down-hearted and blue.” The subscales of the DASS-21 have high internal consistency (αs=.89 to .96), good test–retest reliability (rs=.71 to .81), and high convergent and discriminant validity in both community and clinical samples (Antony et al., 1998a; Crawford and Henry, 2003; Lovibond and Lovibond, 1995b).

2.3. Procedure

Prior to treatment, each individual completed the SCID-IV, which was administered by a psychologist or a clinician with training in diagnostic assessment who was supervised by a