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A randomized, controlled clinical trial of standard, group and brief cognitive-behavioral therapy for panic disorder with agoraphobia: A two-year follow-up

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ABSTRACT

A randomized controlled clinical trial with a wait-list control group was conducted to examine the effectiveness of three modalities (brief, group, and standard) of cognitive-behavioral treatment (CBT) for panic disorder with agoraphobia. A total of 100 participants meeting DSM-IV criteria were randomly assigned to each treatment condition: a 14-session standard CBT ($n = 33$), a 14-session group CBT ($n = 35$) and a 7-session brief CBT ($n = 32$). Participants received a self-study manual and were assigned weekly readings and exercises. The results indicate that regardless of the treatment condition, CBT for moderate to severe PDA is beneficial in medium and long term. To this effect, all three-treatment conditions significantly reduced the intensity of symptoms, increased participants' quality of life, offered high effect sizes, superior maintenance of gains over time, and lower rates of relapse, compared to the wait-list control.

Cognitive-behavioral therapy (CBT) is considered a first-line treatment for PDA in practice guidelines published by the American Psychiatric Association (1998) and the Canadian Psychiatric Association (Swinson et al., 2006). In fact, substantial research evidence has established CBT as the treatment of choice for PDA over placebo, wait-list control, and other active treatments, such as applied relaxation and pharmacotherapy (Foldes-Busque, Marchand, & Landry, 2007; McCabe & Gifford, 2009). Cognitive-behavioral treatments have been shown to offer high effect sizes, superior maintenance of gains over time, and lower rates of relapse compared to pharmacological treatment (Fava et al., 2001; Foldes-Busque et al., 2007; Gould, Otto, & Pollack, 1995; White & Barlow, 2001). The CBT approach for PDA utilizes multiple components that are tailored to meet the treatment needs of the individual. These components include psychoeducation, cognitive restructuring, interoceptive exposure, in vivo exposure, relaxation-based strategies, and prevention relapse. The goal of these strategies is to modify an individual's response to panic cues that may be internally or externally based, so that a fearful response is replaced by a non-fearful one. Standard CBT generally involves weekly individual sessions (between 12 and 18) with a therapist, a reality that requires considerable resources from both the therapist and the client. To further the problem, few professionals have received adequate CBT training to effectively treat PDA. This lack of preparation appears to be an obstacle preventing accessibility to effective treatment (Côté, Gauthier, Laberge, Cormier, & Plamondon, 1994; Walker, Ross, & Norton, 1991).

1. Treatment impact on comorbidity and quality of life

Cognitive-behavioral treatments for PDA also have a positive impact on comorbid conditions, such as anxiety and depression (Brown, Antony, & Barlow, 1995; Laberge, Gauthier, Côté, Plamondon, & Cormier, 1993; Tsao, Lewin, & Craske, 1998). An exploratory study has demonstrated that alcohol abuse diminishes following treatment (Lehman, Brown, & Barlow, 1998). Interestingly, certain studies show an attunement of personality disorders following CBT (Hoffart & Hedley, 1997; Marchand & Geninet, 2000; Marchand, Rochon-Goyer, Dupuis, & Mainguy, 1998; Rathus, Sanderson, Miller, & Wetzler, 1995). A study completed by Telch et al. (1993) systematically evaluated the impact of CBT on the quality of life of participants with PDA. This study demonstrated that CBT for PDA improves participants' functioning at work, in family and conjugal relationships, as well as in social activities. In

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terms of the impact of CBT on the level of conjugal satisfaction, diverse studies have noted that an effective treatment can have harmful effects for certain couples (Hafner, 1984; Hand & Lamontagne, 1976). This effect could occur when the client's partner does not participate in his or her significant other's therapy. The couples' roles are modified by therapy and the client's partner can have the impression that he or she has lost a certain amount of control in the relationship (Barlow, O'Brien, Last, & Holden, 1983). However, other studies have not found any effect, or have actually found a positive impact of CBT on couples' functioning (Barlow et al., 1983; Himadi, Cerny, Barlow, Cohen, & O'Brien, 1986). Therefore, CBT seems to have beneficial effects, not only on primary symptoms of PDA, but equally on related problems, such as psychosocial functioning and quality of life.

In order to improve accessibility to effective treatments, recent studies have investigated various treatment components to assess which mechanisms are most responsible for the effectiveness of the CBT. The different CBT treatment components evaluated by these studies include: the frequency and length of sessions, therapist involvement, and specific treatment materials. The results from these studies are providing evidence that CBT can be effectively delivered in a brief format (Clark et al., 1999; Hecker, Losee, Fritzler, & Fink, 1996).

Numerous authors agree that brief CBT is more effective than a control condition and either equally as effective or more so than standard CBT (Botella & Garcia-Palacios, 1999; Clark et al., 1999; Côté et al., 1994; Craske, Maidenberg, & Bystritsky, 1995; Ghosh & Marks, 1987; Gould & Clum, 1995; Gould, Clum, & Shapiro, 1993; Hecker et al., 1996; Lidren et al., 1994; Roberge, Marchand, Reinharz, & Savard, 2008). In an exploratory cost-effectiveness study of palmtop-computer-assisted brief CBT, Newman, Kenardy, Herman, and Taylor (1997) found no significant outcome differences at follow-up between brief and standard CBT. However, brief CBT appeared to be less expensive than standard CBT. Although more studies have focused on brief CBT, there is evidence that CBT is also effective in a group format (Galassi, Quercioli, Charismas, Niccolai, & Barciulli, 2007; Heldt et al., 2006; Penava, Otto, Maki, & Pollack, 1998; Roberge et al., 2008). Brief and group CBT conditions could increase treatment availability by improving access to qualified therapists and reducing direct and indirect costs of treatment. While the results of such preliminary research are encouraging, more studies are needed to examine the long-term effectiveness of these treatment conditions. Nevertheless, to our knowledge, no other studies have simultaneously compared the impact of a standard, group, and brief treatment modalities on the quality of life (with a valid instrument of measure to assess quality of life) of participants afflicted by moderate to severe PDA. However, the accuracy of these results is diminished due to certain limitations in the research protocols including a lack of adequate sample sizes, proper control groups, and long-term follow-ups (Baillie and Rapee, 2004; McCabe & Gifford, 2009).

This study was conducted to examine the cost-effectiveness of standard, group, and brief CBT modalities for moderate to severe PDA. Results of the three-month follow-up have previously been published (Roberge et al., 2008) and showed no significant differences in clinical efficacy at post-test or at three-month follow-up between treatment modalities. Nonetheless, the authors did note that brief and group CBT incur lower direct and indirect costs and offer a superior cost-effectiveness ratio than standard CBT at the post-test and at the three-month follow-up. However, the clinical efficacy and cost-effectiveness ratio of the treatments in the long term remains unknown. For this reason, the current study is a follow-up investigation of Roberge et al. (2008) with an additional outcome measure of quality of life. The aim of the current study was to examine the clinical efficacy of standard, group, and brief CBT for PDA at the one and two-year follow-up periods. Similar to Roberge et al. (2008) it was hypothesized that: (1) the participants in all three-treatment conditions will exhibit clinical and statistical improvements in symptomatology and quality of life at the one and two-year follow-up periods; (2) treatment conditions will show a greater clinical and statistical improvement than the wait-list control condition; (3) compared to standard CBT, brief and group CBT will incur lower treatment costs and have a superior cost-effectiveness ratio at the one and two-year follow-up periods.

2. Method

2.1. Participants

A total of 100 adults suffering from PDA according to DSM-IV criteria (American Psychiatric Association, 1994) were recruited for this study. The sample consisted of 79 women (79%) and 21 men (21%) ranging from 19 to 65 years of age ($M = 38.94$, SD = 8.71). The average duration of PDA was of 13.55 years (SD = 10.38). The inclusion criteria was the following: (1) between 18 and 65 years of age; (2) primary diagnosis of PDA for at least one year; (3) onset of PDA was diagnosed prior to age 40; and (4) had not received CBT in the last year. The severity of PDA was found to range from moderate to severe, interfering significantly with at least one area of functioning. This was indicated by a clinical score of four or greater on the *Anxiety Disorders Interview Schedule* (ADIS-IV: Di Nardo, Brown, & Barlow, 1994) and a score of three or more on the *Global Assessment of Severity Scale* (GASS; Lavallée & Lebeau, 1992). The mean global severity of PDA, according to the GASS, was 5.08 (SD = 0.96). Comorbid anxiety disorders or major depression were diagnosed in 30% and 8% of the participants respectively. At the beginning of the study, 62% of participants were taking anxiolytic or antidepressant medication. They were asked to continue taking any anxiolytic, antidepressant or other psychotropic medication at the same dosage, which had been prescribed to them, and to avoid a trial of new medication during treatment. This was done to accelerate participants' acceptance into treatment, to reduce the risk of attrition, and for ethical reasons (withdrawal from anxiolytics is a long and complex process). It also increases the ecological validity of the study. In this study's sample, 46 participants (55%) were taking an anxiolytic, 18 participants (21%) an antidepressant, and 12 participants (14%) both types of medications simultaneously. Participants taking anxiolytic medication were found in the group ($n = 18$), brief ($n = 13$) and standard ($n = 16$) treatment conditions. Additionally, participants agreed to interrupt any current psychotherapy during the course of the 15-week treatment. All participants were enrolled in one of the three CBT modalities for PDA; either, standard CBT, ($n = 33$), group CBT ($n = 35$) or brief CBT ($n = 32$). The control group consisted of a delayed-treatment condition made up of 27 participants, who were included in the treatment conditions after a 15-week waiting period. Although 100 participants were enrolled in the treatment, 16 discontinued treatment (i.e., four or more absences) for various reasons (e.g., lack of availability, physical health or family problems). The institutional review boards approved the research protocol and consent forms. Written consent was obtained from all the participants.

2.2. Measures

2.2.1. Clinical evaluation

The ADIS-IV (Di Nardo et al., 1994) and the Global Assessment of Severity Scale (GASS adapted from Mavissakalian, Michelson, Greenwald, Kornblith, & Greenwald, 1983) were administered. Participants also completed validated French translations of self-report measures assessing PDA symptoms, depression, and quality of life. The *ADIS-IV* is a structured interview, which assesses