BRIEF REPORT

Cognitive-Behavioral Group Treatment for Panic Disorder With Agoraphobia

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Cognitive-behavioral therapy (CBT) is well documented in the treatment of panic disorder with or without agoraphobia; however, little is known about the efficacy of group treatment. The purpose of this open study is to investigate the benefits of a combination of the major cognitive and behavioral techniques used in the several specific versions of CBT thus far developed, in a psychotherapeutic group approach for panic and agoraphobia. Seventy-six outpatients meeting the *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised (DSM-III-R; American Psychiatric Association, 1987) criteria for panic disorder with or without agoraphobia were included in the study. The treatment consisted of 14 weekly 2-hr group sessions and included: (a) an educational component, (b) interoceptive exposure, (c) cognitive restructuring, (d) problem solving, and (e) in vivo exposure. Patients achieved significant treatment gains on all dimensions assessed with a high rate of panic remission and significant improvement in the associated symptoms. Furthermore, these gains were maintained at 6-months' follow-up. Our results suggest the feasibility of this combination of cognitive and behavioral techniques. The findings raise questions about the specificity and the impact of each technique. © 2007 Wiley Periodicals, Inc. J Clin Psychol 63: 409–416, 2007.

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Panic disorder (PD) is the most common anxiety disorder, affecting from 2 to 6% of the general population (Kessler et al., 1994). Although pharmacological treatments have proved helpful for many panic sufferers, there are problems associated with their use: fear of taking medications, noncompliance, troublesome side effects, high attrition rates, and relapse upon withdrawal of medication.

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Several controlled trials showing the efficacy of cognitive-behavioral therapy (CBT) for panic disorder with agoraphobia (Craske, Brown, & Barlow, 1991; Margraf, Barlow, Clark, & Telch, 1993; Ost, Westling, & Hellstrom, 1993; Telch et al., 1993) have led to the establishment of the CBT efficacy for PD by the National Institute of Mental Health (1991). The rationale is that patients meeting diagnostic criteria for PD have a heightened tendency to react with fear to ordinary bodily sensations. The CBT model is theoretically promising, as it should act to break the link between bodily sensations and fear (Schmidt, Lerew, & Trakowski, 1997). Several specific versions of CBT for panic disorder have been developed, each consisting of a combination of the following major strategies with specific aims: (a) *Cognitive restructuring* focuses on correcting misappraisal of bodily sensations as dangerous events, (b) *in vivo exposure* to the feared situations or stimuli aims to disconfirm the learned experience and the relative mental automatism (Jacobson, Wilson, & Tupper, 1988) and helps individuals overcome agoraphobic avoidance (Marks, 1987), and (c) between-session homework encourages patients to verify results outside the ambulatory, to assume a positive attitude, and by modifying their thought patterns, to gain more control of the problem. This usually results in a feeling of personal growth and recovery from illness. In the treatment of anxiety disorders, most studies have focused on one or two of these strategies for treatment and on an individual basis whereas few studies have presented a group treatment (Belfer, Munoz, Schachter, & Levendusky, 1995; Martinsen, Olsen, Tonset, Nyland, & Aarre, 1998; Penava, Otto, Maki, & Pollack, 1998; Telch et al., 1993).

In the present study, we describe a group-setting treatment for PD with agoraphobia focused on reducing both agoraphobic avoidance and frequency of panic attacks where the major treatment components/factors refer to the approach of Barlow, Craske, Cerny, and Klosko (1989) and partly to Beck and Emery's (1985) and Clark's (1986) theories.

The aim of this study was to (a) assess the outcome of a broad cognitive-behavioral approach to PD and (b) assess the stability of participants' progress after 6 months from the end of treatment.

Method

Participants

Seventy-six patients from an annual list supplied by the Italian League for Panic Attack Disorder, meeting criteria described later and voluntarily referring to the Psychiatric Clinic Outpatient Service, were enrolled in this study from 1995 to 2001. On a first-come, first-served basis, patients' diagnoses were established using the Structured Clinical Interview (Spitzer, Williams, Gibbon, & First, 1990) for the *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised (*DSM-III-R*; American Psychiatric Association, 1987). Participants were recruited for the study if they fulfilled the following criteria: having a *DSM-III-R* diagnosis of panic disorder with agoraphobia, having had at least one panic attack during the past 30 days, no recent change in psychotropic medications, no history of psychosis, bipolar disorder, or substance-abuse disorder, and no experience of psychotherapy. All patients signed a written informed consent. Age of completers ranged from 22 to 57 years ($M = 37.63 \pm 8.9$). Demographic characteristics are presented in Table 1. Mean duration of panic disorder was 10.96 ± 7.83 years; 17.1% of patients were not under pharmacological treatment whereas 82.9% had been under stable psychotropic treatment for almost 2 months. Of the 76 patients who began the treatment program, 59 completed it and were included in the data analysis. A total of 17 people dropped out of the study: Six dropped out after the first session for reasons related

Table 1
Sociodemographic Characteristics of Patients (N = 76)

Characteristic	Value
Age (in years) (mean ± *SD*)	37.63 ± 8.9
Females/males, *n*	60/16
Marital Status	
Married	64.4
Divorced	6.6
Single	29.0
Occupation (%)	
Employee	42.1
Student	9.2
Unemployed	9.2
Housewife	10.5
Worker	9.2
Trader	7.9
Professional	9.2
Pensioner	2.6

to the treatment, and 4 dropped out for reasons unrelated to the treatment and due to the onset of life events precluding continuation of the treatment. Seven participants attended at least seven sessions; since they made good improvement, they decided to stop the treatment, and thus their posttreatment measures were not recorded.

Treatment

Patients were treated in groups, each comprising from 10 to 12 patients, to permit all participants to properly address their interpersonal issues. The six groups came to the Center of Cognitive-Behavioral Therapy at the Psychiatric Clinic of the University of Florence for 14 weekly meetings, each lasting 2 hr. Each session was conducted by two psychiatrists, one experienced in CBT and one trainer. Patients were provided with detailed guidelines and checklists concerning the techniques applied in each session of the treatment. The first session was devoted to functional analysis of the relationship between emotions, behavior, and cognition. Patients were educated both orally and by written information about the nature and physiology of anxiety and panic attacks with agoraphobia, and about the onset of the disorder according to a cognitive-behavioral approach. Participants also were given information on psychotherapies and drugs for panic therapy. Cognitive and behavioral techniques were implemented from Sessions 2 to 14. The cognitive component included cognitive restructuring, assertive training, and problem solving; the behavioral part consisted of gradual exposure tasks chosen by both the therapist and the patients, referring to the behavioral test form. The in-session exercises, the homework, and the cognitive techniques were presented and discussed to facilitate subsequent exposure and compliance.

Assessment

Pretreatment and posttreatment interviews were conducted by an independent evaluator. A comprehensive battery assessing major clinical dimensions of PD (panic attacks, anxiety,

phobic avoidance, depression, impairment in psychosocial functioning) was administered at baseline, posttreatment, and at 6-months' follow-up. Assessments took place 2 weeks before the first session, 2 weeks after the last session, and 6 months later. Symptoms were assessed as follows: Demographic information, frequency of panic attacks during the last month, fear of experiencing further attacks (rated 1–10 according to its severity), behavioral avoidance of situations, physical symptoms experienced during panic attacks, and current medication status were assessed by demographic and clinical schedules created for that purpose by the staff of the Department for Panic Disorder. Degree of phobic avoidance was assessed by the two subscales of Mobility Inventory for Agoraphobia (MIA; Chambless, Caputo, & Jasin, 1984); generalized anxiety was self-rated by the State-Trait Anxiety Inventory (STAI; Spielberg, Gorsuch, & Lushene, 1970), the STAI-State (STAI-S), which provides an index of how anxious the subject feels at the time of assessment, and the STAI-Trait (STAI-T), which rates the general anxiety level. Disability across the domains of work, social, and family life was evaluated by the Sheehan Disability Scale (Sheehan, Harnett-Sheehan, & Raj, 1996). Level of depression was assessed by the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and the Patient's Global Impression (PGI) and the Clinical Global Impression (CGI) scales report the degree of improvement perceived by the patient and the clinician, respectively (Guy, 1976).

Statistics

Within-group changes in scores on the rating scales between pretreatment and posttreatment and between posttreatment and follow-up were analyzed using paired t test. Chi-square test was used to analyze frequency distributions. A significant level of 0.05 (two-tailed) was used. All statistical analyses were performed using SPSS Version 6.0.

Results

The t-test analysis showed the effectiveness of CBT, as demonstrated by a significant reduction in scores on the rating scales. There was a significant decrease of participants' score means in all scales from the beginning to the end of the treatment; gains also were maintained at the follow-up after 6 months (see Table 2). All scales showed the same trend, and the largest score reductions were on the STAI, the MIA, and the BDI scales.

After an accurate exam of each case, most of the treated patients showed clinically significant improvement on phobic avoidance, depression, and disability indexes. Anticipatory anxiety also showed a reduction from a mean of 6.97 ± 2.18 at the pretreatment assessment to 4.88 ± 2.68 at the posttreatment assessment. The difference was tested using a paired t test and was shown to be significant, $t(58) = 5.17$, $p < .05$.

As for panic-attack frequency, data showed a pretreatment mean of 3.12 ± 4.00 and a posttreatment mean of 1.15 ± 2.06; the difference was statistically significant, $t(58) = 4.12$, $p < .05$. Fifty-four percent of the treated patients achieved panic-free status after treatment, 6.7% achieved a reduction of 80 to 90% of panic attacks, 8.5% showed a reduction of 50%, and 10% showed a reduction of 20 to 25%; 20.3% of the participants did not show any reduction of panic-attack frequency. On the PGI scale, 53.4% of the patients reported as "much improved" after treatment whereas only 6.9% of the patients reported as "not improved."

Chi-square analysis revealed significant differences in neurological, cardiac, respiratory, and psychological symptoms frequency reported in the first two assessments (see Table 3).

Table 2
Means ± SD Rating Scales Obtained at the Pretest, Posttest, and Follow-Up by Completers (N = 59; df = 58)

	Pretreatment		Posttreatment			Follow-Up (6 months)	
Rating Scales	*M*	*SD*	*M*	*SD*	Paired *t* test	*M*	*SD*
STAI-S	49.56	10.43	42.24	9.08	($t = 5.28$, $p < .05$)	42.10	8.98
STAI-T	54.12	11.51	45.97	11.47	($t = 5.90$, $p < .05$)	45.81	11.33
BDI	16.00	8.54	10.24	7.19	($t = 7.15$, $p < .05$)	7.02	0.91
MI-AAC	2.25	0.87	1.82	0.70	($t = 5.65$, $p < .05$)	1.80	0.69
MI-AAL	2.76	0.87	2.18	0.85	($t = 7.12$, $p < .05$)	2.17	0.83
DS-FR	5.10	3.04	3.44	2.80	($t = 4.90$, $p < .05$)	3.00	2.72
DS-W	5.05	2.86	3.12	2.49	($t = 5.32$, $p < .05$)	2.96	2.53
DS-SR	5.25	2.98	3.78	2.85	($t = 4.70$, $p < .05$)	3.57	2.86

Note. STAI-S = State-Trait Anxiety Inventory State; STAI-T = State-Trait Anxiety Inventory Trait; BDI = Beck Depression Inventory; MI-AAC = Mobility Inventory-Avoidance Accompained; MI-AAL = Mobility Inventory-Avoidance Alone; DS-FR = Disability Scale-Family Relationship; DS-W = Disability Scale-Work; DS-SR = Disability Scale-Social Relationship.

Discussion

The present findings demonstrate the efficacy of a group-administered CBT for PD. During the comprehensive treatment program, all scores on the rating scales were substantially reduced. Panic attacks and agoraphobic-behavior frequencies also showed a significant reduction. At the end of treatment, 54.2% of the treated patients were panic-free. Improvement of patients was both statistically and clinically significant.

An important dimension of a treatment is how long results achieved are maintained. Contrary to the substantial relapse observed in drug-treatment trials, CBT treatment gains showed to be maintained for a long time. Many authors (e.g., Fonagy & Roth, 1996; Sanderson & Rego, 2000) reported that the duration of therapy is an important variable in

Table 3
Symptom Frequencies at Pre- and Posttest (df = 1)

Symptoms	Pretreatment	Posttreatment	χ^2
Dyspnea or smothering	42	13	28.64 $p < .001$
Asphyxia sensation	23	6	13.21 $p < .001$
Chest pain	26	9	11.73 $p < .001$
Palpitations or pounding heart	50	25	22.86 $p < .001$
Burst heat or cold sensation	40	13	24.97 $p < .001$
Perspiration	41	16	21.21 $p < .001$
Slight trembling or big shock	32	8	21.78 $p < .001$
Paresthesias	28	10	12.57 $p < .001$
Disbanding, instability, fainting sensation	42	22	13.65 $p < .001$
Nausea or abdominal disturbances	27	9	12.95 $p < .001$
Depersonalization or derealization	27	10	11.37 $p < .001$
Fear of death	36	14	16.79 $p < .001$
Fear to go mad	37	8	30.20 $p < .001$

determining the efficacy of CBT; in particular, the longer the treatment, the greater the efficacy. In this study, 3 months of group CBT seemed to be sufficient to produce a detectable improvement and to maintain it, confirming previous results (Clark et al., 1991; Marks, Basoglu, & Noshirvani, 1994; Rijken, Kraaimaat, de Ruiter, & Garssen, 1992). Regarding the concomitant pharmacotherapy, there were no increases or changes in medications during either the group CBT or in the 2 previous months.

Our outcomes appear not to be in line with the findings of Dreessen, Arntz, Luttels, and Sallaerts (1994), who noted that the phobic personality's characteristics do not detract from the efficacy of short CBT and that those characteristics require a longer therapy with different objectives. On the other hand, Guidano and Liotti (1983) indicated that a relevant characteristic of phobic patients is the marked exception of danger and the necessity of control. Because CBT is characterized by specific information and concrete applications, it is likely to give fast and concrete outcomes. Klein, Zitrin, Woerner, and Ross (1983) reported that depression is a predictor of poor outcome in CBT. In our experience with phobic patients, depressive symptoms are more often demoralizing secondary to the phobic symptoms rather than a primary co-diagnostic symptom. Contrary to the findings by Martinsen et al. (1998), we did not find that BDI scores predict the outcomes.

At the end of the treatment, patients reported an improvement of well-being by gaining awareness of the distortion of their thoughts, which had given rise to a fear circle. Removal of symptoms yielded the major changes, leading to increased skill in controlling feelings and overcoming discomfort. Our clinical impression leads us to consider that the whole of intervention associated with a specific group effect (e.g., support from peers and interactions between members), rather than each single technique, is responsible for the positive results. This version of group treatment offers an alternative to individual therapy and is welcomed by patients who require the organization of self-help groups.

In conclusion, the CBT applied in our study seems to be effective in the usual clinical setting, and the group strategy proposed could be a feasible arrangement to treat PD patients with agoraphobia as well, who often do not receive effective treatment. As reported by Leveni, Mazzoleni, and Piacentini (1999), the Evidenced Based Medicine treatment appears to be applicable in public health service, has low costs, requires minimum investments in staff training, and allows resources optimization. Moreover, our findings suggest that this treatment can be effective both in the short-term as well as in the long-term; however, these results should be interpreted cautiously, as the lack of a control group receiving any other treatment is evident.

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