

THE POSSIBILITY OF REDUCING THERAPIST CONTACT AND TOTAL LENGTH OF THERAPY IN THE TREATMENT OF PANIC DISORDER

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Abstract. This study compares the effectiveness of a standard cognitive-behavioural treatment for panic disorder with a reduced therapist contact program supported by self-help materials. This program shortens the total therapy length (from 10 to 5 weeks) and the contact time with the therapist (from 10 to 5 sessions). The sample was mostly referred from a public mental health unit, and it had a low level of education (average of 9.7 years). The subjects were assessed according to several variables related with panic disorder at pre- and post-test, and at 12-month follow-up. The results demonstrated that both programs produced significant improvements for all variables at post-test, the benefits were maintained at follow-up assessment, and even heightened for some of the measures. Also, both treatment programs obtained comparable improvements for most measures. These results suggest that the programs that reduce the contact with the therapist, supported by self-help materials, and shorten the time that the patient suffers from this problem (Margraf, Barlow, Clark, & Telch, 1993) may be a good intervention for the treatment of panic disorder. These programs can help to overcome some of the cost-benefit therapeutic limitations of standard cognitive-behavioural programs.

Keywords: Panic disorder, cognitive-behavioural therapy, self-help.

Introduction

The effectiveness of cognitive-behavioural therapy (CBT) for panic disorder has been widely demonstrated (McNally, 1996). These interventions have shown higher effectiveness than waiting-list, supportive therapy, relaxation, and placebo control (Clum, Clum, & Surls, 1993; Michelson & Marchione, 1991). These programs can eliminate panic in over 80% of the patients and keep them panic free for long periods of time, even at a two-year follow-up (Margraf et al., 1993). These treatments offer the highest effectiveness and the lowest drop-out rates compared with pharmacotherapy and combined treatments. In addition, long-term results show that these programs are the most powerful ones to maintain the therapeutic benefits (Gould, Otto, & Pollack, 1995). However, in spite of these promising results, the real possibility of administering CBT to all panic sufferers is questioned. The National Institute of Health (1991) has

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recommended that researchers develop treatments whose mode of delivery increases the availability of the program. Cote, Gauthier, Laberge, Cormier and Plamondon (1994) have noted some limitations to the cognitive-behavioural programs: (a) The mode of delivery implies the therapist's involvement during the whole therapy process, and so the treatment is time consuming, and the costs may be prohibitive to many patients with limited financial resources. (b) This issue is important because many epidemiological studies have revealed that a higher prevalence of anxiety disorders is associated with a lower socio-economic status (Myers et al., 1984; Shepher, Cooper, Brown, & Kalton, 1986). (c) The availability of these programs is often restricted to metropolitan areas. (d) Patients who ask for help in public health institutions often face long waiting-lists. (e) As the treatment includes weekly sessions for several months, it is thought impractical from a public perspective. Considering these problems, the idea of developing CBT programs that reduce the amount of contact with the therapist but still obtain comparable therapeutic results becomes very important. A number of studies have developed and tested some self-help approaches that show that this is possible (Gould, Clum, & Shapiro, 1993; Hecker, Losee, Fritzier, & Fink, 1996; Lidren et al., 1994; Cote et al., 1994, Gould & Clum, 1995; Clark, Salkovskis, Hackman, Wells, & Gelder, 1995).

On the other hand, epidemiological findings suggest that panic disorder is associated with significant social and health problems such as alcohol and drug abuse, increased rate of suicide attempts, and marital, social and financial problems (Markowitz, Weissman, Ouellette, Lish, & Klerman, 1989; Weissman, 1991). For these reasons, Margraf et al. (1993) considered panic disorder as an important public health problem. Our own clinical experience confirms the limitations to the quality of life of panic sufferers and shows the high level of suffering that these patients have to bear (Botella & Ballester, 1997). Given the importance of the problem and its repercussions, we propose to shorten not only the contact time between patient and therapist, but also the total length of therapy, namely the time that the patient suffers the problem. Achieving this aim would be a great advance from both a practical and an ethical view.

There is adequate evidence about the utility of self-help approaches in the treatment of panic disorder; this treatment has a lot of support as regards Axis I of the "Clinical Practice Guidelines" (efficacy), but has limitations in the Axis II, namely, the applicability and feasibility of the intervention in real-life clinical settings (Nathan & Gorman, 1998). One of the limitations is the generalizability of the results to panic sufferers in general, taking into account such issues as educational level, volunteer vs. referred patients, and comorbidity. Before we recommend the use of these programs to panic sufferers, we have first to replicate and extend those results and, second, to improve the issues concerning generalizability to panic sufferers. The present study compares a standard cognitive-behavioural program with a program that reduces the therapist contact and the total length of therapy time. The latter program relies on half the amount of delivery, and half the standard therapy length, and is supported by self-help materials. The study was carried out in a sample of panic patients with a low level of education (9 years), referred by mental health professionals in public mental health care.

Table 1. Sample description for some demographic variables

Subject	Treatment	Sex	Age	Educational level
1	BRTC	Female	24	11
2	SCB	Female	18	11
3	BRTC	Female	29	8
4	SCB	Male	31	8
5	BRTC	Female	27	11
6	SCB	Female	29	16
7	BRTC	Female	26	14
8	SCB	Female	24	8
9	BRTC	Female	23	11
10	SCB	Male	39	8
11	BRTC	Male	20	11
12	SCB	Female	38	8
13	BRTC	Male	20	11
14	SCB	Female	46	8
15	BRTC	Female	30	11
16	SCB	Male	39	8
17	BRTC	Female	27	8
18	SCB	Female	19	8
19	BRTC	Female	23	11
20	SCB	Female	25	8

Method

Subjects

The subjects were recruited from the Mental Health Unit of Vila-real¹ and from the Jaume I University Anxiety Disorder Clinic. The subjects in the Mental Health Unit were referred by clinical psychologists or psychiatrists. The patients who attended the Anxiety Disorders Clinic were volunteers or were referred by a psychiatrist. The initial sample consisted of 23 subjects, 5 volunteers (21.74%) and 18 referred by mental health professionals (78.26%). Eighteen of the subjects were women (78%) and 5 men, with a mean age of 29 years ($SD = 7.56$) (range 18–52). Of the patients, 52.2% had an elementary level of education, 39.1% had a secondary level, and 8.6% had a university degree. If we translate this variable into years of education, as we usually find it in the literature, the mean educational level was 9.7 years ($SD = 2.21$) (range 8–16) (see Table 1).

All patients received DSM-III-R (APA, 1987) diagnosis of panic disorder, 17 with agoraphobia (74%) and 6 without agoraphobia (26%). Diagnosis was established using the Structured Clinical Interview for DSM-III-R (SCID; Spitzer & Williams, 1986). We used the DSM-III-R criteria because DSM-IV had not been published when we started. We later evaluated retrospectively each subject who took part in the study, following the DSM-IV criteria (APA, 1994) and we found that diagnosis and severity did not change. Diagnoses were made by experienced clinicians (a clinical psychologist or a

¹We would like to thank the invaluable collaboration of all members of the Mental Health Unit of Vila-real, Castello. We would not have been able to carry out this research without their help.

psychiatrist). These diagnoses were confirmed by the therapist who was going to treat the patients, and supervised in a clinical meeting by the members of the research team, all experienced clinical psychologists.

In our sample, the mean of panic attacks per month was 5 ($SD = 2.6$) (range 2–10). The mean severity of panic attacks on a 0–10 scale was 8 ($SD = 1.42$) (range 6–10). The mean duration of the disorder in years was 3.41 ($SD = 3.18$) (range 0.16–14). Fourteen patients (61%) were taking medication when they asked for help.

We established criteria to determine which subjects should be excluded from the study: current alcohol or drug dependence, severe physical illness, primary diagnosis of major depression, and psychosis. We also took into account issues such as: (a) Medication. We followed the usual recommendations that appear in other studies (Gould & Clum, 1995, Lidren et al., 1994), namely that if the subjects were taking medication, they were asked to maintain the same medication and the same dosage throughout the research period (although they could reduce or eliminate it at any moment of the process, following the guidelines of their mental health unit to avoid rebound or discontinuation effects). However, if a patient increased the dosage or changed the medication, he was excluded from the study. (b) Other therapy. A subject was excluded if they were undergoing another psychological treatment. However, none of the subjects in our sample was following other CBT or psychotherapy programs when they started our treatment and did not follow other programs after completion and during the follow-up periods.

Twenty-three subjects completed the assessment over the following two weeks by filling in a set of questionnaires and a consent form. After a baseline period of two weeks the subjects were ranked according to certain measures and randomly assigned to the experimental groups. As we thought that these measures could influence the treatment outcomes, we matched both groups regarding these variables. The measures used were: (a) Diagnosis of panic disorder with agoraphobia vs. without agoraphobia. (b) Medication intake vs. no medication intake. (c) Severity.

The subjects were randomly assigned to two groups: Standard Cognitive-Behavioural treatment (SCB), whose effectiveness had already been demonstrated (Ballester, Botella, Gil, & Ferrer, 1991), and Brief and Reduced Therapist Contact treatment (BRTC) supported by self-help materials. This program had been specifically developed for this study. One subject in the standard condition was taken out of the study because he increased his medication dose. Two subjects dropped out: one from the standard condition (6th session) because she considered she felt better and did not require more therapy, and one from the brief condition (2nd session) because she thought that treatment could not help her. Ten subjects remained in each condition.

Measures

Weekly measures were:

Panic Attack diary: The information recorded the number of panic attacks per week, the severity of each panic attack rated on a 0–10 subjective scale, panic attack duration, and number of symptoms.

Agoraphobic Avoidance and Fear (AAF, adapted from Marks & Mathews, 1979). The patient and the therapist established four behaviours or situations that the patient avoided because of agoraphobia and rated the level of avoidance on a 0–10 scale where 0 was “I never avoid it” and 10 was “I always avoid it”; and the level of fear on another 0–10 scale, where 0 was “No fear” and 10 was “Extreme fear”.

Therapist and patient’s improvement measures (adapted from Guy, 1976).

Therapist Global Impression (TGI). The therapist answered the question: “Considering his clinical experience, how do you evaluate the global severity of this patient?” and evaluated from a clinical point of view the global impression about the patient’s severity on a 1–6 subjective scale, where 1 was “Normal”, 2 was “Lightly perturbed”, 3 was “Moderately perturbed”, 4 was “Quite perturbed”, 5 was “Severely perturbed”, and 6 was “Very severely perturbed”.

Clinical Improvement: Therapist (CIT). The therapist evaluated the patient improvement from the beginning of the treatment on a 0–7 scale where 1 was “Much better”, 2 “Quite better”, 3 “A little better”, 4 “No changes”, 5 “A little worse”, 6 “Quite worse”, and 7 “Much worse”.

Clinical Improvement: Patient (CIP). The patient evaluated the level of improvement from the beginning of the treatment on a 1–7 subjective scale, the same as CIT2.

Pre/post measures were:

State-Trait Anxiety Inventory (STAI, Spielberger, Gorsuch, & Lushene, 1970), Spanish version (TEA, 1988).

Beck Anxiety Inventory (BAI, Riskind, Beck, Brown, & Steer, 1987), Spanish translation (Ballester, 1992).

Beck Depression Inventory (BDI, Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961), Spanish version.

Cognitive Dysfunction Inventory (CDI, Beck & Sokol-Kessler, 1986), Spanish translation (Ballester, 1992). The patient evaluated the occurrence and severity of cognitions related to panic attacks on a 16-item scale. Each item was rated on a 4-point Likert-type scale with scores ranging from 0, “Not at all” to 4, “Completely”.

Impairment Questionnaire (in Borda & Echeburua, 1991). This evaluated the impairment that the disorder caused in several areas of the patient’s life: couple, family, leisure, social area, work, and global impairment. Each area was rated on a 5-point scale with scores ranging from 0, “Not at all” to 5, “Completely”. We only analysed work, social, and global impairment because the subjects were not impaired in the other areas at pre-test.

Follow-up

A 12-month follow-up assessment was established, in which subjects completed all the instruments. Nobody received additional treatment during the year after the treatment ended.

Table 2. Standard Cognitive-Behavioural treatment (SCB)

Session	Content
1	Educational component
2	Educational component and panic cognitive model
3	Breathing retraining
4	Practice: cognitive techniques and breathing retraining
5	Distraction techniques
6	Practice and facing agoraphobic situations
7	Practice
8	Practice
9	Relapse prevention
10	Relapse prevention

Treatments

Standard Cognitive-Behavioural Treatment (SCB, Table 2). This treatment has been adapted by Botella and Ballester (1991) from Clark and Salkovskis (1987, 1989) and Barlow and Cerny (1988). The treatment was administered in weekly sessions over 10 weeks. Each session lasted about 50 minutes. The total time of contact with the therapist was about 8.33 hours. The treatment components were: (a) Educational component: General information about anxiety. (b) Cognitive therapy, which involved identifying and modifying catastrophic interpretations of bodily sensations in panic attacks. (c) Breathing retraining, following the same procedure as Clark and Salkovskis (1987). (d) Relapse prevention to maintain treatment achievements.

Brief and Reduced Therapist Contact Treatment (BRTC, Table 3). This treatment was adapted from the SCB. This program was administered in weekly sessions over 5 weeks. Each session lasted about 50 minutes. The total contact time with the therapist was 4.16 hours. The treatment components were the same as in SCB, but supported by self-help materials. The self-help manual was divided into four parts. The first part was "What is anxiety?", which supported the educational component. The second and third parts, "A-B-C" and "What is a PA?", supported the cognitive therapy component.

Table 3. Brief Reduced Therapist Contact treatment (BRTC)

Session	Content
1	Educational component (working on manual given in assessment: <i>What is anxiety?</i>) Non focused CBT: general cognitive techniques Giving manual: ABC, and audiotape
2	Focused CBT: Cognitive techniques focused in modifying catastrophic misinterpretations of body sensations. Giving manual: What is a Panic Attack?
3	Breathing retraining Giving manual: Breathing retraining
4	Practice
5	Relapse prevention

“A-B-C” covered issues about general cognitive therapy, and was supported by an audiotape with exercises about identifying and modifying dysfunctional cognitions. “What is a PA?” included cognitive therapy related specifically to cognitions in a panic attack. The final part, “Breathing retraining”, supported the component of the same name. This program is neither a pure self-help condition nor a minimal therapist contact one, but a reduced therapist contact program. The patient was given the self-help materials to work at home, and the therapist and the patient worked through the content of the manual and audiotape in the five sessions that comprised the treatment. This program reduced the contact time between therapist and patient from 10 to 5 sessions, and the total therapy length from 10 to 5 weeks.

Results

Given that our hypothesis was that the two treatment conditions would not differ in effectiveness, we decided to use a more liberal procedure than multivariate tests, and so used parametric tests, concretely separate univariate tests. First, we analysed the differences between the groups at pre-test. Two-tailed t tests did not reveal any differences between the experimental conditions in any of the measures. Then we analysed the changes from pre-test to post-test and follow-up using 2×3 (Groups \times Time) repeated measures analysis of variance (ANOVAs). In Tables 4 and 5 we offer mean and standard deviation of analysed variables in the different assessments, and in Table 6 effect sizes are shown.

Measures directly related to panic and agoraphobia

Analysis showed no Group effect in any of these measures. A significant Time effect appeared in all the measures: panic frequency, $F(2,36) = 52.15$, $p < .001$; panic severity, $F(2,36) = 65.47$, $p < .001$; number of symptoms, $F(2,36) = 25.70$, $p < .001$; catastrophic cognitions (CDI), $F(2,36) = 78.28$, $p < .001$; agoraphobic avoidance, $F(2,26) = 88.67$, $p < .001$, and agoraphobic fear, $F(2,26) = 37.38$, $p < .001$. Contrasts revealed reduction in all these variables from pre-test to post-test: panic frequency, $F(1,18) = 60.29$, $p < .001$; panic severity, $F(1,18) = 64.62$, $p < .001$; number of symptoms, $F(1,18) = 36.17$, $p < .001$; catastrophic cognitions (CDI), $F(1,18) = 74.66$, $p < .001$; agoraphobic avoidance, $F(1,13) = 124.39$, $p < .001$; and agoraphobic fear, $F(1,13) = 46.41$, $p < .001$. We found also reductions from post-test to follow-up in all these variables: panic frequency, $F(1,18) = 42.82$, $p < .001$; panic severity, $F(1,18) = 66.56$, $p < .001$; number of symptoms, $F(1,18) = 15.88$, $p < .001$; catastrophic cognitions (CDI), $F(1,18) = 81.99$, $p < .001$; agoraphobic avoidance, $F(1,13) = 52.77$, $p < .001$; and agoraphobic fear, $F(1,13) = 27.11$, $p < .001$. We only found a Group \times Time effect in one of the variables, number of symptoms, $F(2,36) = 4.11$, $p < .025$; reduction in symptoms were higher in the standard condition. However, contrasts revealed that this significant effect disappeared from post-test to the follow-up assessment. In summary, patients showed improvement in their clinical status at post-test, and were more improved at one-year follow-up. On the other hand, there were no differences between the two treatment conditions for most of the variables.

Table 4. Means and standard deviations on variables directly related with panic and anxiety and depression measures at pre-treatment, post-treatment and follow-up assessment

Variable		Pre-treatment		Post-treatment		12-month follow-up	
		M	SD	M	SD	M	SD
Panic frequency	Treat. 10	5.60	3.23	1.30	1.94	0.30	0.69
	Treat. 5	4.40	1.89	1.00	1.05	0.60	0.48
Panic severity	Treat. 10	7.20	1.03	1.90	2.47	1.00	1.63
	Treat. 5	8.50	1.51	3.90	2.69	2.10	2.33
Symptoms	Treat. 10	18.00	4.83	4.40	6.22	3.90	4.55
	Treat. 5	14.30	5.92	8.60	9.36	7.40	5.14
CDI	Treat. 10	29.40	6.02	19.30	6.96	14.50	5.23
	Treat. 5	26.50	5.74	15.70	4.24	12.20	4.39
Agoraphobic avoidance	Treat. 10	8.64	0.49	2.61	1.48	1.28	1.79
	Treat. 5	7.07	2.03	2.98	2.50	2.87	3.04
Agoraphobic fear	Treat. 10	7.43	1.54	2.36	1.90	2.00	2.00
	Treat. 5	6.00	1.12	2.95	1.57	2.25	2.25
STAI-S	Treat. 10	26.60	11.57	18.00	5.29	21.20	10.76
	Treat. 5	23.30	11.23	16.40	8.32	15.80	8.73
STAI-T	Treat. 10	34.30	9.86	24.20	7.36	26.90	10.82
	Treat. 5	34.20	5.86	27.10	7.01	26.90	6.36
BAI	Treat. 10	24.00	8.43	12.40	6.94	12.80	5.73
	Treat. 5	22.90	8.67	15.00	9.79	12.10	7.59
BDI	Treat. 10	15.60	9.95	8.00	5.03	11.80	7.48
	Treat. 5	16.33	6.40	9.22	5.56	11.11	3.85

Treatments: Treat. 10: Standard treatment (10 sessions). Treat. 5: Brief treatment (5 sessions).

Anxiety and depression measures

ANOVAs showed no Group effect, but a Time effect in all these variables: BDI, $F(2,36) = 11.05$, $p < .000$; BAI, $F(2,36) = 18.04$, $p < .000$; STAI-S $F(2,36) = 7.31$, $p < .002$; and STAI-T, $F(2,36) = 13.32$, $p < .000$. The contrasts revealed statistical differences from pre-test to post-test in BAI, $F(1,18) = 21.8$, $p < .000$, BDI, $F(1,18) = 20.4$, $p < .000$, STAI-S, $F(1,18) = 11.5$, $p < .003$, and STAI-T, $F(1,18) = 27.6$, $p < .000$. The contrasts showed no differences from post-test to follow-up in BDI, STAI-S, and STAI-T. There were only differences from post-test to follow-up in BAI, $F(1,18) = 12.9$, $p < .002$. The reduction in this variable was higher at follow-up. Finally, no Group by Time effect was found. To summarize, both treatments achieved significant improvements for anxiety and depression measures at post-test and the benefits were maintained at follow-up. With regard to effectiveness, we found no differences between treatment conditions for any of these variables.

Therapist and patient improvement measures

We found no Group effect in these variables. There was a Time effect for all the measures: Therapist Global Impression, $F(2,36) = 64.55$, $p < .000$; Improvement evaluated by therapist, $F(2,36) = 133.16$, $p < .000$; and Improvement evaluated by patient,

Table 5. Means and standard deviations on therapist and patient improvement variables and impairment measures at pre-treatment, post-treatment and follow-up

Variable		Pre-treatment		Post-treatment		12-month follow-up	
		M	SD	M	SD	M	SD
Therapist global impression	Treat. 10	3.50	0.70	2.10	0.57	1.90	0.56
	Treat. 5	3.20	0.63	2.20	0.42	1.60	0.69
Improvement: therapist	Treat. 10	4.1	0.31	2.20	0.42	1.80	0.63
	Treat. 5	4.2	0.42	2.20	0.42	1.70	0.67
Improvement: patient	Treat. 10	4.00	0.00	1.30	0.48	1.30	0.48
	Treat. 5	3.80	0.42	1.60	0.51	1.30	0.67
Social impairment	Treat. 10	2.70	0.82	1.20	1.03	1.20	0.78
	Treat. 5	2.20	1.47	1.20	1.22	1.20	1.03
Work impairment	Treat. 10	2.80	1.75	1.70	1.49	1.10	0.87
	Treat. 5	2.00	1.49	1.80	1.13	0.80	0.78
Global impairment	Treat. 10	3.40	0.69	1.80	0.78	1.30	0.67
	Treat. 5	3.30	0.82	2.20	0.78	1.30	0.67

Treatments: Treat. 10: Standard treatment (10 sessions). Treat. 5: Brief treatment (5 sessions).

$F(2,36) = 250.14, p < .000$. Contrasts showed reductions from pre-test to post-test in all measures: Therapist Global Impression, $F(1,18) = 81, p < .000$; Improvement evaluated by therapist, $F(1,18) = 198.39, p < .000$; and Improvement evaluated by patient, $F(1,18) = 584.03, p < .000$, and from post-test to follow-up we found an improvement in the Therapist Global Impression, $F(1,18) = 52.94, p < .000$ and Improvement evaluated by therapist, $F(1,18) = 91.09, p < .000$. We found no Group \times Time effect. In the therapist and patient improvement variables we found a significant improvement that was maintained, and even increased, one year after treatment completion for the variables evaluated by the therapist. As for differential effectiveness, both treatments showed comparable improvements for these measures.

Impairment measures

ANOVAs showed no Group effect in these measures. Analysis revealed a significant Time effect in all these variables: work, $F(2,36) = 9.77, p < .000$; social, $F(2,36) = 11.84, p < .000$; and global impairment, $F(2,36) = 43.75, p < .000$. Contrasts revealed differences between pre-test and post-test for social, $F(1,18) = 34.91, p < .000$, and global impairment, $F(1,18) = 37.92, p < .000$, but not for work impairment. However, changes occurred when post-test was compared to a 12-month follow-up, for work, $F(1,18) = 19.45, p < .000$, and global impairment $F(1,18) = 49.23, p < .000$. In both comparisons there was a reduction for these variables from post-test to follow-up. There was no Group \times Time effect. In summary, analyses on these variables showed that both treatments were effective for most of the measures. Impairment decreased significantly along the therapeutic process. With regard to differential effectiveness, BRTC was as effective as SCB.

Medication

With regard to medication intake, 53% of the subjects in SCB and 45.45% in BRTC were taking clinic doses of anxiolytic drugs at pre-treatment. However, at a one-year follow-up, only 20% of the subjects in SCB and 10% in BRTC were taking medication. Besides, all these patients had reduced their medication intake.

Global Clinical Improvement

Many ways for considering clinical improvement have been defined (Barlow, 1988; Brown & Barlow, 1995; Clum, 1989; De Beurs, van Dyck, van Balkom, Lange & Koele, 1994; Jacobson, Follete, & Revensdorf, 1984; Mavissakalian, 1986; Mavissakalian & Hamann, 1986; Shear & Maser, 1994) and, although a recognition of the importance of the problem exists, it has not yet been solved. Many terms have been used to describe general clinical improvement, namely, treatment responder status, panic free status, end-state functioning, clinically significant change, and level of functioning after treatment. Improvement rates ranged from 20% (e.g. Barlow, 1988) to 50% (e.g. Clum, 1989) for several criteria considered as essential to panic disorder. One of the most used is the panic free status. In our study 80% of patients in SCB and 70% in BRTC were panic free at post-test. At follow-up 90% in both SCB and BRTC were panic free. We used the number of panic attacks per month to establish the panic free status. Although panic free percentage has been widely used in the panic disorder literature, to determine the global clinical improvement in our study, we established a reduction of 50% in those variables noted in The National Institutes of Health Consensus Development Conference, celebrated in 1992 (Shear & Maser, 1994): (a) panic and limited symptoms attacks; (b) anticipatory anxiety and phobic symptoms; (c) functional impairment (work and social impairment); (d) global severity and improvement completed by the patient and the therapist; (f) utilization of medical care (psychiatric and non-psychiatric care); (g) use of alcohol and other drugs. The analyses revealed that 50% of the subjects in SCB and 30% in BRTC met all the criteria at post-test, and at a one-year follow-up 70% of the subjects in SCB and 80% in BRTC met the criteria. Unfortunately, we cannot offer an anticipatory anxiety measure because we did not include it in the assessment protocol.

Discussion

Our results offer experimental evidence about the usefulness of cognitive-behavioural programs for the treatment of panic disorder. We have found statistical differences from pre- to post-treatment for all the analysed measures, and these changes were maintained at follow-up. The findings support the effectiveness of cognitive-behavioural therapy for this disorder (Michelson & Marchione, 1991; Gould et al., 1995).

With regard to the main aim of this study, the subjects in the SCB did not show significant differences when compared to subjects in the BRTC for most of the analysed variables. The 5-session brief program was as effective as the 10-session standard treatment. First, there were no statistical differences for the variables relating to panic and

agoraphobia, such as panic frequency and severity, catastrophic cognitions, and agoraphobic avoidance and fear. We only found a higher reduction in number of symptoms in the SCB at post-test which disappeared in the last assessment. No differences were found for the variables relating to the improvement evaluated by the therapist and the patient and relating to the impairment questionnaire. Finally, no differences were found for important clinical variables, such as anxiety and depression measures.

In summary, the results of the study support the idea that a brief program – one that has a significantly shorter therapist contact time than the standard treatment (5 sessions rather than 10), and half the delivery time (5 weeks rather than 10) – offers an effectiveness comparable to the standard treatment. The patients improve faster and with less contact with the therapist. Moreover, improvement was not only maintained at follow-up, but even improved from post-treatment to follow-up in the most important measures, i.e. those related to panic and agoraphobia, an anxiety variable (BAI), measures related to clinical improvement, such as CIT, and with work and global impairment. We would like to draw attention to the recommendation of The National Institutes of Health Consensus Development Conference about the importance of using follow-up periods of at least one year (Shear & Maser, 1994). Until now, studies about self-help or reduced therapist contact for panic disorder included pre- and post-test assessments (Gould et al., 1993), at 2-month follow-up (Gould & Clum, 1995), or at 6-month follow-up (Hecker et al., 1996; Lidren et al., 1994); it is more difficult to find studies with a one-year follow-up (Cote et al., 1994).

Another issue we would like to point out is the generalizability of these results to all panic sufferers. First, most of the subjects (78%) were referred by general practitioners and were not volunteers, unlike other samples (Gould et al., 1993; Gould & Clum, 1995; Lidren et al., 1994); and most of our patients came from a public mental health unit. Because of this, we do not think that the criticism of some psychiatrists that the cognitive-behavioural therapist only treats panic disorder with mild severity is applicable. We consider this issue very relevant and we agree with McNally (1996) when he insists on the need to establish standardized selection criteria and a strict assessment to select patients for research studies (Shear & Maser, 1994). Second, another fact that supports the generalizability of our findings is that most of the subjects had a low (52.2%) to moderate (39.1%) level of education, and only a minority (8.6%) had university degrees. We consider this issue interesting because all the previous studies about the effectiveness of self-help cognitive-behavioural treatment have been with samples with higher educational levels, and this becomes a problem when the results have to be generalized. Hecker et al. (1996) tried to address that issue by using a sample of referred patients, but they acquired subjects who had a high education level (14 years). They concluded that “the generalizability of the positive findings for self-help treatments to clients with less education remains to be demonstrated”. Our study supports the effectiveness of these programs in a low educated population, given the fact that our sample had a lower education level than samples from previous studies (Cote et al., 1995; Gould et al., 1993; Gould & Clum, 1995; Hecker et al., 1996). However, we have to note that our self-help program was not a pure self-help condition, because the patients met the therapist for five sessions where therapeutic interventions were delivered. We also have to point out, however, that the total time of contact was 4.16 hours and the treatment was delivered in only 5 weeks. Third, our study demonstrates that

CBT programs for panic disorder can be effective in different cultural sites, given the fact that our program was tested on a Spanish population.

With regard to results about medication, in another study we divided the sample according to medication intake (García-Palacios & Botella, 1998). When we compared patients who were taking medication to those who were not, we did not find statistical differences in improvement. These findings are similar to those of other studies (Cote et al., 1994; Hecker et al., 1996; Oei, Llamas, & Evans, 1997).

Our drop-out rate was 10% for each group. If we compare our data with other studies in the same line—8.7% in Cote study (Cote et al., 1994); 16.6% in Gould & Clum study (1995)—we found that this drop-out rate is quite acceptable. Besides, the drop-out rate was the same for both groups, so the BRTC did not show negative side effects. With respect to relapse, we had one in the BRTC in the last follow-up. One point that we would like to note is that all the patients who completed the treatment also completed the follow-up assessments. We think this is relevant because it is not usual for all patients to complete all the assessments, and therefore this can be taken as an index of the suitability of our brief program.

With regard to global clinical improvement, our data are encouraging. Taking into account the short intervention time, the subjects improved at post-treatment (50% in SCB and 30% in BRTC), the improvement increased after treatment completion, and, at a one-year follow-up our results (70% in SCB and 80% in BRTC) were similar to results in review studies about cognitive-behavioural interventions for panic disorder (Clum, 1989; Gould et al., 1995). In addition, the BRTC achieved better long-term improvements than SCB. Another finding is the decrease of medication intake, that is also greater in BRTC. A possible explanation could be that the patients' involvement with self-help materials led to an increase in self-efficacy, an aspect that has demonstrated its relevance in panic disorder (Cote et al., 1994; Gould et al., 1993). However, we cannot be certain because we did not include a self-efficacy measure in our study.

Panic free status after treatment is the usual measure to determine clinical improvement in panic disorder (Clum, 1989). However, the time measured to establish this index ranges from 2 to 4 weeks after the treatment completion (Brown & Barlow, 1995; McNally, 1996). McNally (1996) has noticed that a period of only 4 weeks for measuring panic frequency could overestimate the treatment effectiveness, and he recommends longer time periods, because the index then decreases dramatically (e.g. from 74.6% to 20.6% in Brown & Barlow, 1995). Considering this criticism, we asked our patients in the last follow-up about their panic frequency in the last 6 months, and the rate of panic free subjects decreased dramatically to 30% in SCB and to 20% in BRTC. This finding is similar to Brown and Barlow's (1995), and therefore we agree with McNally's recommendation (1996) about being more strict and to consider other aspects to clarify the real patient situation throughout the whole therapeutic process. However, we should not forget that patients often overestimate (almost double) the panic attack frequency when they estimate it retrospectively (Beurs, Lange, & van Dyck, 1992), and our clinical experience also shows that panic attacks are not experienced in the same way throughout the therapeutic process. This aspect depends on several factors: the number and intensity of symptoms, the suffered fear level, the moment in which the panic attack happens, if the panic attack is unexpected, and the level of self-efficacy perceived to master the attack. Perhaps, all these factors show the need to consider the

Table 6. Effect size and power for all measures

Measures	Group		Time		Group \times Time	
	ES	Power	ES	Power	ES	Power
Panic frequency	0.250	0.098	0.782	1.000	0.087	0.166
Panic severity	0.168	0.438	0.784	1.000	0.018	0.099
Symptoms	0.027	0.013	0.588	1.000	0.186	0.692
CDI	0.103	0.276	0.813	1.000	0.008	0.071
Agoraphobic avoidance	0.022	0.079	0.872	1.000	0.141	0.398
Agoraphobic fear	0.001	0.051	0.742	1.000	0.026	0.100
STAI-S	0.052	0.155	0.289	0.917	0.021	0.107
STAI-T	0.005	0.060	0.425	0.996	0.024	0.117
BAI	0.001	0.050	0.501	1.000	0.038	0.161
BDI	0.009	0.066	0.381	0.986	0.019	0.102
Therapist global impression	0.033	0.115	0.782	1.000	0.065	0.253
Improvement therapist	0.000	0.050	0.881	1.000	0.011	0.079
Improvement patient	0.003	0.055	0.933	1.000	0.094	0.361
Social impairment	0.013	0.074	0.397	0.991	0.026	0.121
Work impairment	0.031	0.110	0.352	0.974	0.050	0.200
Global impairment	0.012	0.073	0.709	1.000	0.038	0.160

variants of panic that appear in literature: nonclinical panic, nonfearful panic, nocturnal panic, and limited symptom attacks (McNally, 1994) because it is possible that these different variants have not the same meaning in terms of clinical improvement. Our data showed not only the decrease in the number and severity of panic attacks, but also in the number of symptoms; there was also a significant decrease in agoraphobic avoidance and fear. The patients' verbal reports in therapy revealed that the subjects perceived a greater ability to face panic attacks: "Although I have a panic attack, I'm not so scared and the intensity is lower"; "Although I have a panic attack, I am able to face it and it isn't the same as it was before the therapy". Finally, it has also to be noted that sometimes it is difficult for the patient to differentiate and to identify panic attacks (or the different variants). This issue reflects the difficulty of having an accurate measure for panic attacks, a difficulty that increases in patients with a low educational level. Even with one of the best instruments for measuring panic severity and checking that patients have learnt to identify different variants of panic, it seems difficult for all patients to distinguish between panic attacks, limited symptom attacks, and anticipatory anxiety (PDSS; Shear, Sholomskas, & Cloitre, 1992). We therefore consider that panic frequency is relevant, but it covers only one dimension of what panic disorder includes.

Finally, we would like to note some of the caveats of our study.

1. We have used a relatively small sample, although similar to other studies (Côté et al., 1994; Gould et al., 1993; Gould & Clum, 1995; Hecker et al., 1996; Lidren et al., 1994). It could be argued that the fact that we have not found statistical differences may have been due to a lack of statistical power rather than a real lack of difference in effectiveness between the two treatments. However, if we observe the results regarding test power and effect size (see Table 6), we find small power and effect sizes when

our hypothesis predicts finding no statistical differences (Group and Interaction effects), and big power and effect sizes when we predict statistical differences (Time effect). These results support the idea that our analyses have enough statistical power. Our findings are similar to those from other studies, namely, the equivalent effectiveness of self-help and standard CBT approaches. As Hecker et al. (1996) have pointed out, this fact supports the idea that CBT self-help approaches are as effective as standard CBT in panic disorder, more than the idea about the lack of statistical power.

2. We have not included a control condition. The reason is the same as in other studies (Cote et al., 1994; Hecker et al., 1996), that it was not our aim to demonstrate cognitive-behavioural program effectiveness, because we think this is already established (Margraf et al., 1993). Our aim was to compare the effectiveness of a reduced therapist contact program with a standard program adapted from relevant cognitive-behavioural treatments (Barlow & Cerny, 1988; Clark & Salkovskis, 1987), whose effectiveness had already been established in individual and group therapy (Botella & Ballester, 1991; Ballester et al., 1991; Ballester & Botella, 1992).

3. Although our findings support the equivalent effectiveness of our self-help program with a standard one, we can see from Tables 4 and 5 that the improvement was slightly higher in some of the measures in the standard condition than in the self-help condition.

4. Finally, we have not used an independent assessor because of some practical difficulties. This is a limitation of our study, but other research has the same limitation. We would also like to highlight the high correlation found between the patients' ratings and independent assessor's ratings in classical studies about agoraphobia (Mathews, Gelder, & Johnston, 1981).

We can conclude that we have a brief treatment for panic disorder that reduces considerably the contact between the therapist and the patient and the total length of the therapy while remaining as effective as a standard program. We consider that our study helps to eliminate some of the obstacles that prevent many panic sufferers benefiting from cognitive behavioural advances to treat panic disorder, because it was effective with a sample of referred patients with a low educational level and we were able to reduce the patient time of suffering. We therefore consider our findings important from a practical view and, because of the limitations to the quality of life of panic sufferers, important also from an ethical view.

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References

- AMERICAN PSYCHIATRIC ASSOCIATION (1987). *Diagnosical and statistical manual of mental disorders* (3rd ed. rev.). Washington, DC: APA (Barcelona, Masson, 1988).
- AMERICAN PSYCHIATRIC ASSOCIATION (1994). *Diagnosical and statistical manual of mental disorders* (4th ed.). Washington, DC: APA (Barcelona, Masson, 1995).

- BALLESTER, R., & BOTELLA, C. (1992). Aplicación del programa cognitivo-comportamental de Clark y Salkovskis: Una alternativa para el tratamiento del pánico. *Analisis y Modificación de Conducta*, 18, 291–321.
- BALLESTER, R., BOTELLA, C., GIL, M. D., & FERRER, R. (1991). La eficacia terapéutica del tratamiento cognitivo del pánico. *Congreso Internacional Stress, Ansiedad e Desordens Emocionais*, Universidad do Minho, Braga, Portugal. 1 al 3 de Julio.
- BARLOW, D. H. (1988). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. New York: Guilford Press.
- BARLOW, D. H., & CERNY, J. A. (1988). *Psychological treatment of panic*. New York: Guilford Press.
- BECK, A. T., & SOKOL-KESSLER, L. (1986). *A test of cognitive dysfunction in panic attacks*. Paper presented at the research conference, University of Pennsylvania, Philadelphia.
- BECK, A. T., WARD, C. H., MENDELSON, M., MOCK, J., & ERBAUGH, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561–571.
- BORDA, M., & ECHEBURUA, E. (1991). La autoexposición como tratamiento psicológico en un caso de agorafobia. *Analisis y Modificación de Conducta*, 18, 101–103.
- BOTELLA, C., & BALLESTER, R. (1991). Tratamiento psicológico del trastorno de pánico: Adaptación del programa cognitivo-conductual de Clark. *Analisis y Modificación de Conducta*, 17, 871–894.
- BROWN, T. A., & BARLOW, D. H. (1995). Long-term outcome in cognitive-behavioural treatments of panic disorder: Clinical predictors and alternative strategies for assessment. *Journal of Consulting and Clinical Psychology*, 63, 754–765.
- CLARK, D. M., & SALKOVSKIS, P. M. (1987). *Cognitive treatment for panic attacks: Therapist's manual*. Unpublished manuscript.
- CLARK, D. M., & SALKOVSKIS, P. M. (1989). *Cognitive therapy for panic and hypochondriasis*. Oxford: Pergamon.
- CLARK, D. M., SALKOVSKIS, P. M., HACKMANN, A., WELLS, A., & GELDER, M. (1995). *A comparison of standard and brief cognitive therapy for panic disorder*. Paper presented in World Congress of Behavioural and Cognitive Therapies, Copenhagen, Denmark, July.
- CLUM, G. A. (1989). Psychological interventions vs. drugs in the treatment of panic. *Behaviour Therapy*, 20, 429–457.
- CLUM, G. A. (1990). *Coping with panic*. Pacific Grove, CA: Brooks/Cole Publishing.
- CLUM, G. A., CLUM, G. A., & SURLS, R. (1993). A meta-analysis of treatments for panic disorder. *Journal of Consulting and Clinical Psychology*, 61, 317–326.
- CÔTE, G., GAUTHIER, J. G., LABERGE, B., CORMIER, H. J., & PLAMONDON, J. (1994). Reduced therapist contact in the cognitive behavioural treatment of panic disorder. *Behaviour Therapy*, 25, 123–145.
- DE BEURS, E., LANGE, A., & VAN DYCK, R. (1992). Self-monitoring of panic attacks and retrospective estimates of panic: Discordant findings. *Behaviour Research and Therapy*, 30, 411–413.
- DE BEURS, E., VAN DYCK, R., VAN BALKOM, A. J. L. M., LANGE, A., & KOELE, P. (1994). Assessing the clinical significance of outcome in agoraphobia research: A comparison of two approaches. *Behaviour Therapy*, 25, 147–158.
- GARCIA-PALACIOS, A., & BOTELLA, C. (1998). Interference of the use of alprazolam in the cognitive-behavioural treatment for panic disorder. *Revista de Psicopatología y Psicología Clínica*.
- GOULD, R. A., & CLUM, G. A. (1995). Self-help plus minimal therapist contact in the treatment of panic disorder: A replication and extension. *Behaviour Therapy*, 26, 533–546.
- GOULD, R. A., CLUM, G. A., & SHAPIRO, D. (1993). The use of bibliotherapy in the treatment of panic: A preliminary investigation. *Behaviour Therapy*, 24, 241–252.

- GOULD, R. A., OTTO, M. W., & POLLACK, M. H. (1995). A meta-analysis of treatment outcome for panic disorder. *Clinical Psychology Review*, *15*, 819–844.
- GUY, W. (1976). ECDEU. *Assessment manual for psychopharmacology revised*. NIMH Publ. DHEW Publ. No (Adm) 76-338.
- HECKER, J. F., LOSEE, B. S., FRITZLER, B. S., & FINK, C. M. (1996). Self-directed versus therapist-directed cognitive behavioural treatment for panic disorder. *Journal of Anxiety Disorders*, *10*, 253–265.
- JACOBSON, N. S., FOLLETTE, W. C., & REVENSTORF, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behaviour Therapy*, *15*, 336–352.
- LIDREN, D. M., WATKINS, P. L., GOULD, R. A., CLUM, G. A., ASTERINO, M., & TULLOCH, H. L. (1994). A comparison of bibliotherapy and group therapy in the treatment of panic disorder. *Journal of Consulting and Clinical Psychology*, *62*, 865–869.
- MARGRAF, J., BARLOW, D. H., CLARK, D. M., & TELCH, M. J. (1993). Psychological treatment of panic: Work in progress on outcome, active ingredients, and follow-up. *Behaviour Research and Therapy*, *31*, 1–8.
- MARKOWITZ, J. S., WEISSMAN, M. M., OUELLETTE, R., LISH, J. D., & KLERMAN, G. L. (1989). Quality of life in panic disorder. *Archives of General Psychiatry*, *46*, 984–992.
- MARKS, I., & MATHEWS, A. (1979). Brief standards self-rating for phobic patients. *Behaviour Research and Therapy*, *17*, 263–267.
- MATHEWS, A., GELDER, M., & JOHNSTON, D. (1981). *Agoraphobia. Nature and treatment*. New York: Guilford Press.
- MAVISSAKALIAN, M. (1986). Clinically significant improvement in agoraphobia research. *Behaviour Research and Therapy*, *24*, 369–370.
- MAVISSAKALIAN, M., & HAMANN, M. S. (1986). Assessment and significance of behavioural avoidance in agoraphobia. *Journal of Psychopathology and Behavioural Assessment*, *8*, 199–210.
- M McNALLY, R. J. (1994). *Panic disorder. A critical analysis*. New York: Guilford Press.
- M McNALLY, R. J. (1996). Nuevos desarrollos en el tratamiento del trastorno de pánico. *Revista de Psicopatología y Psicología Clínica*, *1*, 91–103.
- MICHELSON, L. K., & MARCHIONE, K. (1991). Behavioural, cognitive, and pharmacological treatments of panic disorder with agoraphobia: Critique and synthesis. *Journal of Consulting and Clinical Psychology*, *59*, 100–114.
- MYERS, J. K., WEISSMAN, M. M., TISCHLER, G. L., HOLZER, C. E., LEAF, P. J., ORVASCHEL, H., ANTHONY, J., BOYD, J. H., BURKE, J. D., KRAEMER, M., & STOLZMAN, R. (1984). Six-month prevalence of psychiatric disorders in three communities: 1980–1982. *Archives of General Psychiatry*, *41*, 959–967.
- NATHAN, P. E., & GORMAN, J. M. (1998). *Treatments that work*. New York: Oxford University Press.
- NATIONAL INSTITUTE OF HEALTH (1991). *Treatment of panic disorder*. NIH Consensus development conference consensus statement (vol. 9).
- OEI, T. P., LLAMAS, M., & EVANS, L. (1997). Does concurrent drug intake affect the long-term outcome of group cognitive behaviour therapy in panic disorder with or without agoraphobia? *Behaviour Research and Therapy*, *35*, 851–857.
- RISKIND, J. H., BECK, A. T., BROWN, G. B., & STEER, R. A. (1987). Taking the measure of anxiety and depression: Validity of reconstructed Hamiltonian Scales. *Journal of Nervous and Mental Diseases*, *175*, 474–479.
- SHEAR, M. K., & MASER, J. D. (1994). Standardized assessment for panic disorder research. A conference report. *Archives of General Psychiatry*, *51*, 346–354.

- SHEAR, M. K., SHOLOMSKAS, D., & CLOITRE, M. (1992). *The panic disorder severity scale*. Department of Psychiatry, University of Pittsburgh.
- SHEPHER, M., COOPER, B., BROWN, A. C., & KALTON, G. (1986). *Psychiatric illness in general practice*. London: Oxford.
- SPIELBERGER, C. D., GORSUCH, R. L., & LUSHENE, R. E. (1970). *Manual for the state-trait anxiety inventory*. Palo Alto, CA: Consulting Psychologists Press. (TEA, 1988).
- SPITZER, R. L., & WILLIAMS, J. B. W. (1986). *Structured clinical review for DMS-III-R-Upjohn version – Revised (SCID-UP-R)*. New York: Biometrics Research Department, New York State Psychiatric Institute.
- WEISSMAN, M. M. (1991). Panic disorder: Impact on quality of life. *Journal of Clinical Psychiatry*, 52, 6–9.