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# Dissemination of Cognitive Therapy for Panic Disorder in Primary Care

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## Abstract

This study investigated whether brief training in cognitive therapy for panic disorder (Clark et al., 1994) can improve the outcomes that primary care therapists obtain with their patients. Seven primary care therapists treated 36 patients meeting DSM-IV (APA, 1994) criteria for panic disorder with or without agoraphobia in general practice surgeries. Outcomes for the cohort of patients whom the therapists treated with their usual methods (treatment-as-usual) before the training ($N = 12$) were compared with those obtained with similar patients treated by the same therapists after brief training and ongoing supervision in cognitive therapy (CT) for panic disorder ($N = 24$). Treatment-as-usual led to significant improvements in panic severity, general anxiety, and depression. However, only a small proportion (17% of the intent-to-treat sample) became panic free and there was no improvement in agoraphobic avoidance. Patients treated with CT achieved significantly better outcomes on all measures of panic attacks, including panic-free rate (54%, intent-to-treat), and showed significantly greater improvements in agoraphobic avoidance and patient-rated general anxiety. In conclusion, cognitive therapy for panic disorder can be successfully disseminated in primary care with a brief therapist training and supervision programme that leads to significant improvements in patient outcomes.

### Keywords

Dissemination; therapist training; cognitive therapy; panic disorder; primary care

## Introduction

There is good evidence, summarized in recent National Institute of Health and Clinical Excellence Guidelines (NICE, 2004 a, b, 2005, 2006) that various cognitive-behavioural treatment (CBT) programmes are effective in the treatment of anxiety disorders and depression. The NICE guidelines state the therapists should be suitably trained and supervised, and should adhere closely to empirically grounded treatment protocols. Unfortunately, a shortage of trained therapists means that many patients who could benefit from CBT are unable to access treatment.

There are a number of well-established diploma or masters level cognitive therapy training courses in the UK and many other training providers offer single or multiple workshops. However, there has been relatively little research into the effectiveness of such training programmes, which makes it difficult to rationally plan workforce development initiatives, such as the UK Government's Improving Access to Psychological Therapies Programme

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(Department of Health, 2008). Some studies (Mannix et al., 2006; Sholomskas et al., 2005) have assessed the effects of aspects of training on ratings of a therapist's CBT skills and have found that it can be difficult to improve CBT skills by workshops alone, but that adding CBT supervision can improve (or maintain) CBT skills.

There is a particular lack of data on the crucial question of whether training therapists in CBT skills improves the clinical outcomes of their patients. Indirect evidence comes from studying the outcome of patients treated by therapists who had received CBT training and comparing them to outcomes of other therapists or the literature. Howard (1999) reported in a clinical audit that patients with a diagnosis of an anxiety disorder who were treated by therapists who had specialist training in CBT for anxiety had better treatment outcomes and lower relapse rates than patients treated by non-specialists. Dissemination studies of CBT treatments for posttraumatic stress disorder (Gillespie, Duffy, Hackmann and Clark, 2002; Duffy, Gillespie and Clark, 2007), hypochondriasis (health anxiety; Wattar et al., 2005) and panic disorder (Addis et al., 2004; Wade, Treat and Stuart, 1998) have shown that therapists who work in routine care settings and have little previous CBT experience can achieve results similar to those in efficacy trial data after disorder focused CBT training. However, these studies are open to several interpretations. The CBT training may have improved patient outcomes. Alternatively, the therapists who elected to have such training may already have superior clinical skills. Clearly, a pre-post training comparison within the same therapists or randomization of therapists to training versus no training is required to clarify this issue.

Two studies have included pre-post comparisons or randomization when assessing the effects of various types of therapist training on patient outcomes. King et al. (2002) randomized General Practitioners to 4 half-day workshops covering CBT skills for depression or a wait control group. The workshops had no discernable effect on patient outcomes. In contrast, Westbrook, Sedgwick-Taylor, Bennett-Levy, Butler and McManus (2008), using a pre-post comparison, reported improved outcomes in a heterogeneous group of patients following 10 weekly sessions of one day each, with both clinical supervision and workshop each day. However, interpretation is complicated by the fact that the pre-training comparison data were incomplete and was not necessarily for the same disorders as those treated by the therapists after the training. Thus, it remains to be demonstrated that patient outcomes improve if their therapists receive focused training in an evidence based CBT for a particular disorder. The present study therefore aimed to investigate whether patient outcomes improve when their therapists receive training in one such treatment. The particular treatment chosen for this study was cognitive therapy for panic disorder (Clark et al., 1994).

Panic disorder is an anxiety disorder associated with high levels of disability, including agoraphobic avoidance, and health costs for physical investigations. Key diagnostic features of panic disorder are the presence of unexpected panic attacks together with apprehension about having further such attacks. Clark's (1986) cognitive theory of panic disorder proposes that individuals who experience recurrent panic attacks do so because they have an enduring tendency to misinterpret benign bodily sensations as indications of an immediately impending physical or mental catastrophe. For example, palpitations may be interpreted as evidence of an imminent heart attack, which increases anxiety and, in turn, anxiety-related sensations, strengthening the idea of a heart attack and so on. Cognitive therapy for panic disorder is based upon the implications of this model, and helps patients to identify and change their misinterpretations of bodily sensations by a blending of verbal discussion techniques and experiential exercises/behavioural experiments (Clark, 1996). Cognitive therapy for panic disorder is a highly effective therapy leading to panic-free rates of 80- 90% at the end of treatment for both a full 12-session treatment program and a brief 5-session

program supplemented by self-study modules (Clark et al., 1994, 1999). These results are broadly maintained at one-year follow-up. Other similar cognitive-behavioural therapies for panic disorder also show good results, e.g. panic control treatment as developed by Barlow and colleagues (1988). The NICE (2004b) guideline for the management of panic disorder in adults states that cognitive behaviour therapy is the treatment of choice.

In this study, therapists working in primary care received training in cognitive therapy for panic disorder and treatment outcomes of the patients seen by these therapists were systematically assessed, before and after this training.

## Method

### Design

The study compared treatment outcome for consecutive cohorts of patients with panic disorder before and after therapists received training in Cognitive Therapy for panic disorder (CT). During a baseline phase of 8 months, therapists treated patients with their usual methods (treatment as usual, TAU). Therapists then participated in a 3-day CT training workshop followed by an 8-month period in which they treated further panic disorder patients with CT while receiving regular supervision from the training team. A further one-day workshop was then provided, followed by another 8-month period of treating patients using CT with ongoing supervision.

### Procedure

Therapists were recruited by approaching primary care counselling services with the offer of participation in a research study, which included free training and supervision. Presentations were given at service meetings where appropriate. Once recruited, therapists attended a half-day training workshop in identifying and assessing panic disorder. Following the workshop, therapists identified patients who might be suitable for inclusion in the study from their routine referrals within primary care. Once therapists had identified a possible patient, a specially trained research psychologist phoned the patient to conduct a very brief screening assessment and to arrange an independent assessment of the patient using the Anxiety Disorders Interview Schedule (ADIS; Brown, DiNardo and Barlow, 2004) and Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon and Williams, 1996). If patients met the entry criteria for the study (see below), they were invited to participate.

### Treatment, therapists, and supervision

**Therapists—**The therapists were seven primary care mental health professionals (six counsellors and one counselling psychologist). There were five women and two men, age range 37 to 60 (mean 49.8) years, with 4 to 14 (mean 8.4) years experience as a therapist. Three had attended CBT workshops in their continuing professional development but none had had training in cognitive therapy for panic disorder. They described their therapeutic orientations as integrative ($n$=2), person-centred ($n$=1), systemic ($n$=1), rational-emotive behavioural ($n$=1), and cognitive-behavioural ($n$=2).

**Treatment as usual (TAU)—**In the first phase, therapists treated patients using their usual therapeutic approaches and techniques. This included a variety of anxiety management techniques, supportive psychotherapy, and problem solving. As shown in Table 1, patients received a mean of 7.3 sessions.

**Cognitive Therapy (CT)—**The cognitive therapy programme was based on Clark's (1986) model of panic disorder, and has been described in detail elsewhere (Clark et al., 1994; Clark, 1996). The model posits that panic disorder is maintained by an enduring

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tendency to misinterpret bodily sensations in a catastrophic fashion. Treatment involves identifying and changing these misinterpretations. Up to 12 sessions were available on a weekly basis followed by a post treatment assessment. Up to three monthly maintenance sessions could be offered during the first 3 months of follow-up. As shown in Table 1, patients received a mean of 9.0 sessions before the post-treatment follow-up with 1.3 subsequent maintenance sessions.

**Supervision—**This was provided in a group format where possible with individual supervision available if scheduling difficulties arose. Although supervision was planned to be weekly, due to scheduling difficulties and therapist leave, each therapist essentially received bi-weekly supervision. Supervision involved case discussion, reviewing audio/video tapes of sessions, and role-play. The first two authors provided supervision.

## Patients

Patient inclusion criteria were the similar to those of the randomized controlled trials of CT for panic disorder (Clark et al., 1994, 1999), namely (a) patient meets DSM-IV diagnostic criteria (APA, 1994) criteria for panic disorder with no, mild or moderate agoraphobia; (b) duration is at least 6 months; (c) at least three panic attacks in the 3 weeks prior to assessment; (d) panic considered as patient's main problem; (e) age 18-60 years; (f) willingness to accept entry into the research study. Exclusion criteria were (a) depressive disorder severe enough to require immediate psychiatric treatment (i.e. immediate suicide risk); or (b) organic mental disorder, schizophrenia, alcohol or drug dependence.

Over the course of the study, therapists identified 91 patients for research assessment and possible participation. A total of 65 patients were assessed and 36 entered the study to receive treatment. The reasons for not being assessed were not wanting to participate ($n$=10), reporting on the phone that panic was not in fact their main problem for which they wished to seek help ($n$=5), practical reasons making it impossible to attend (e.g. childcare problems; $n$=4), and failing to attend the arranged assessment appointment and not returning the assessor's attempts of further contact ($n$=7). Of those assessed and not suitable, the reasons were severe agoraphobia (i.e. housebound and unable to attend sessions; $n$=10) and panic disorder not being the main problem ($n$=13), and practical reasons making it impossible to attend sessions on a regular basis (e.g. work commitments; $n$=6).

Table 1 presents patient characteristics. The majority of the patients were female, white and living with a partner. About half of the patients had received previous treatments for panic disorder. There were few differences between the TAU and CT cohorts. The CT patients were less likely to be in gainful employment than the TAU patients.

If patients were taking psychotropic medication, they were required to be on a stable dose for at least 2 months before treatment and agree not to change dosage during treatment. Table 1 shows that 50% of the TAU cohort and 31% of the CT group were taking medication at initial assessment. The majority did not change their medication with treatment, as instructed. During the treatment phase, one TAU patient increased their dose, one CT patient started medication, and one TAU patient reduced their dose.

## Measures and assessments

Assessments followed those used in the randomized controlled trials of CT for panic disorder (Clark et al., 1994, 1999).

**Panic attacks—**Presence of panic attacks and panic-related distress/disability were assessed on separate rating scales covering the last 2 weeks. Each scale was completed by

both the patient and an independent assessor (a trained psychologist). Panic frequency was rated on a 5-point scale where 0 = no panic attacks, 1 = one panic attack per fortnight, 2 = one or two panic attacks per week, 3 = at least three panic attacks per week but less than one per day, and 4 = one or more panic attacks per day. The definition of a panic attack was printed above the scale. Frequency of limited symptom attacks was not assessed. Panic-related distress/disability was rated on a 9-point scale where 0 represented not at all disturbing and/or disabling, 2 = slightly, 4 = definitely, 6 = markedly, and 8 = very disturbing/disabling.

*General anxiety* was assessed by the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown and Steer, 1988). Patient and assessor also completed a 9-point rating of general tension and anxiety with the same anchor points as for the panic-related distress/disability scale.

*Agoraphobic avoidance* was assessed with the agoraphobia subscale of the Modified Fear Questionnaire (Marks and Mathews, 1979; Clark et al., 1994). Each of 5 items are rated on a 4-point scale where 0 represented never, 1 = sometimes, 2 = often, and 3 = always.

*Panic related cognition* was assessed with a modified version of the Agoraphobic Cognitions Questionnaire (Chambless, Caputo, Bright and Gallagher, 1984) that measures both the frequency of panic cognitions and the degree of conviction in these cognitions. For each of the 18 items, frequency is rated on a 5-point scale from 1 = not at all to 5 = always, and degree of conviction (belief) is rated from 0 = I don't believe this at all, to 100 = I believe this completely.

*Depression* was also assessed using the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock and Erbaugh, 1961).

### Data analysis

The main outcome measures were those that assessed characteristics of panic disorder, namely the percentage of patients that were panic-free, and the severity of the panic attacks, agoraphobic cognitions, and agoraphobic avoidance. Secondary outcome measures were those that measured general anxiety and depression.

Treatment outcome at the end of treatment (last session) and at 6-months follow-up for the treatment as usual (TAU) and Cognitive Therapy (CT) cohorts were compared with analyses of covariance, using baseline scores as the covariate. Dichotomous measures were compared with $\chi^2$-tests, or Fisher's Exact Tests if the expected cell count was less than 5. The main analyses were two-tailed completer analyses, using a significance level of $p < .05$. Completers were defined as patients that had attended more than two sessions. Data from the two CT phases (before and after the one day follow-up workshop) were combined as initial inspection indicated that they did not differ.

For five patients, data from the 3-month follow-up were used as an approximation for missing 6-month follow-up data. There were no differences between the TAU and CT cohorts in the duration of the follow-up period, see Table 1. Analyses were conducted with SPSS version 13.0. Significance level was set at $p = .05$, two-tailed.

## Results

### Drop outs

There was no difference in drop-out rates between the TAU (1 drop out, 8.3%) and CT conditions (2 drop outs, 7.7 %). In the TAU condition the person dropped out after two sessions without giving a reason and did not respond to many attempts to contact her. In the

CT condition both people dropped out after two sessions, one because her working hours unexpectedly changed and she was no longer able to attend, and the other because he voluntarily admitted himself to a private psychiatric hospital for help with alcohol abuse.

### Treatment outcome

Table 2 shows the results for the completer analysis. The baseline scores were comparable for the TAU and CT cohorts on most measures, with the exception of greater assessor-rated general tension and anxiety for the CT cohort, $t\,(33) = 3.38$, $p = .002$; and a similar trend for self-rated general tension and anxiety, $t\,(33) = 1.70$, $p = .099$

At post-treatment assessment, the CT cohort had a significantly superior outcome than the TAU group on all panic disorder measures. They also reported a greater reduction in general anxiety than the TAU group. There were no differences in depression.

At follow-up, the CT group continued to show better outcome than the TAU group in terms of the percentage of patients who were panic free, (68% vs. 22% for assessor-ratings, and 63% vs. 27% for self-ratings), agoraphobic cognitions, agoraphobic avoidance, and ratings of general tension and anxiety.

### Intent-to-treat analyses

Intent-to-treat analyses, in which the last available observation is carried forward for drop-outs, give the same results. For example, for the post-treatment assessment, the intent-to-treat panic free rates were 16.7% for TAU and 54.2% for CT for assessor ratings, $\chi^2$ (1, 36) = 4.63, p = .031, $\chi^2$ = .129; and 8.3% for TAU and 57.7% for CT for patient ratings, $\chi^2$ (1, 38) = 8.21 $p = .004$, $\chi^2 = .216$. At follow-up, the corresponding numbers were 20% versus 62.5% for assessor ratings, $\chi^2$ (1, 34) = 5.10, $p = .024$, $\eta^2 = .150$; and 25% versus 57.7% for patient ratings, $\chi^2$ (1, 38) = 3.52, $p = .061$, $\eta^2 = .092$.

### Therapist feedback

At the end of the study the therapists completed questionnaires about their participation in the study. All seven therapists rated their participation as extremely useful (top of a 5-point scale). Six of the therapists said that the most helpful part had been the ongoing supervision. In response to the question “what have you learned?” four therapists named the need to be specific in addressing the appraisals of particular symptoms, and three therapists named the use of behavioural experiments. All therapists self-rated their general therapy skills to have improved moderately to extremely (top 3 points of a 5-point scale) and that their skills in identifying and implementing cognitive change techniques had improved very much or extremely (top 2 points of a 5-point scale).

## Discussion

The present paper investigated the impact of training in a specialized CBT programme, cognitive therapy for panic disorder, on patient outcome in primary care. All participating therapists had several years of experience in treating primary care patients with anxiety disorders, and some had previous knowledge of CBT. The initial cohort of patients who were treated by the therapists with their usual methods (TAU group) showed considerable improvement with therapy, as indicated by substantial reductions in the severity of their panic attacks, general anxiety, and depression. However, very few of the patients showed a degree of improvement that would indicate that they no longer suffered from panic disorder. According to the independent assessor, only two of the patients became panic free (18% of completers, 17% of the intent-to-treat sample). Furthermore, the results indicated that there was no improvement in agoraphobic avoidance.

Patients treated by the same therapists after they had been trained in CT for panic disorder showed significantly better clinical outcomes than the TAU cohort on all measures of panic attacks and on most measures of general anxiety, but not depression. Notably, the panic free rate was greater in the CT cohort (58% of the completers, 54% of the intent-to-treat sample). These patients also showed substantial reductions in agoraphobic avoidance. Thus, therapist training in a treatment programme that specifically targets the patient's disorder had a significant impact on improvement in the core clinical symptoms of the disorder.

While TAU was clearly helping patients cope with their panic disorder, CT was significantly better at eliminating the attacks and avoidance and reducing associated disability. The panic free rate achieved by the therapists in this study was not as high as in the original trials (Clark et al., 1994, 1999) but patients nevertheless showed a comparable reduction in panic severity and agoraphobic avoidance.

At follow-up, the group differences were somewhat less pronounced, but the CT group still showed better outcome in terms of panic-free rates, agoraphobic avoidance, agoraphobic cognitions, general tension and anxiety. The pattern of results at follow-up may reflect delayed improvements in the TAU group or effects of additional interventions. For example, two TAU patients reported that they became panic-free between the end of treatment and the follow-up assessment point. However, the follow-up assessment documented that one of these patients had started medication (a SSRI) 6 weeks before assessment point. It is possible that the panic-free status achieved at follow-up was a consequence of the medication. It is unlikely that such medication would have been prescribed if the person had already become panic-free due to a delayed treatment effect.

The TAU and CT conditions differed somewhat in number of sessions. The main difference was that CT usually involves some booster sessions where progress is reviewed and consolidated. TAU in primary care usually does not comprise such booster sessions. The slightly higher number of sessions in CT raises the question of whether the results could be due to a dose-response relationship. This is, however, unlikely, as the group differences were already evident at the end of weekly sessions when there was no significant difference in number of sessions.

The study had strengths and limitations. A strength is that the effects of training were not only assessed by therapist feedback, but also by patient outcome, including independent assessments. Remarkably, few studies have looked at whether patient outcomes improve following clinician training in specific psychotherapy methods, and this study is one of the first to address this issue systematically. Another strength is the low drop out rate of only 8%. For comparison, the US studies investigating the dissemination of panic control treatment had higher rates of treatment non-completers; 29.4% in Wade et al. (1998) and 46.3% in Addis et al. (2004). Together with the superior outcome compared to TAU, the results suggest that CT for panic disorder is acceptable and feasible in primary care. Hence, a lengthy generic training in CBT may not be necessary for primary care clinicians, as the provision of short training programmes for a specific disorder has shown impressive results.

Among the limitations is the small number of patients in each cohort. Strenuous efforts were made to recruit as many patients as possible in the given time frame, but practical constraints within the participating NHS organizations limited the number of patients that could be seen. Therapists had to balance their involvement in the study with their other substantial workload. A second limitation is the sequential design of the study. We cannot rule out that therapists simply got better at treating panic disorder with time and experience. On the other hand, there were no differences in outcome for patients treated in the first and second 8-month period after the initial training workshops, so that it appears unlikely that

the results just reflect a linear trend. A third limitation is that TAU varied between therapists so that it was not a uniform comparison. However, this reflects standard practice in primary care. We were unable to formally determine what particular interventions happened in TAU as sessions are not normally taped. Fourth, there was no longer-term follow-up. Finally, there was no ongoing supervision in the TAU phase except from usual clinical management. It is conceivable that the additional time spent in supervision discussing the cases had a significant impact on the quality of therapy and thus on patient outcome.

This is only a small scale study with therapists treating patients with panic disorder. There is a need to investigate other CBT treatments, to vary the amount of training to assess the optimal dose, and to explore how it might be best delivered. Our experience and that of other clinical researchers (e.g. Mannix et al., 2006), together with the comments of the participating therapists, suggests that supervision is a crucial element in learning and applying CBT, rather than simply attending workshops. Cognitive therapy treatment programs should be seen as packages that include not just the therapy contact but also the supervision of therapists. Certainly, most efficacy trials involve regular supervision as a key part of maintaining adherence and competence. This has implications for the training and supervision of new therapists to provide evidence-based treatments.

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**Table 1**

Sample characteristics for the treatment as usual (TAU) and cognitive therapy (CT) cohorts

| | TAU (*n*=12) | | CT (*n*=26) | | Statistics |
|---|---|---|---|---|---|
| | **Mean or *N*** | ***SD* or %** | **Mean or *N*** | ***SD* or%** | |
| Sex | | | | | |
| Male | 3 | 25% | 5 | 19% | Fisher(1), $p = .689$ |
| Female | 9 | 75% | 21 | 81% | |
| Age | 31.8 | 9.4 | 37.1 | 9.8 | $T(36) = 1.56$, $p = .13$ |
| Ethnic group | | | | | |
| White | 9 | 75% | 25 | 96% | Fisher(1), $p = .084$ |
| Not white | 3 | 25% | 1 | 4% | |
| Education | | | | | |
| No exam | 0 | 0% | 3 | 12% | $\chi^2(2, 38) = 1.68$ $p = .434$ |
| GCSE | 7 | 58% | 15 | 58% | |
| A level or higher | 5 | 42% | 8 | 31% | |
| Employment | | | | | |
| Full | 9 | 75% | 10 | 39% | $\chi^2(1, 38) = 4.39$, $p = .036$ for employed versus not |
| Part-time | 2 | 17% | 5 | 19% | |
| Unemployed | 1 | 8% | 6 | 23% | |
| Homemaker | 0 | 0% | 5 | 19% | |
| Marital | | | | | |
| Married | 5 | 42% | 13 | 50% | $X^2(1, 38) = 0.16$, $p = .900$ for living with partner versus not |
| Cohabiting | 4 | 33% | 15 | 23% | |
| Divorced | 0 | 0% | 8 | 12% | |
| Never married | 4 | 25% | 4 | 15% | |
| Agoraphobic Avoidance (ADIS) | | | | | |

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| | TAU (*n*=12) | | CT (*n*=26) | | Statistics |
|---|---|---|---|---|---|
| | **Mean or *N*** | ***SD* or %** | **Mean or *N*** | ***SD* or%** | |
| None | 2 | 17% | 1 | 4% | $\chi^2(1, 38) = 2.94$, $p = .230$ |
| Mild | 4 | 33% | 15 | 58% | |
| Moderate | 6 | 50% | 10 | 39% | |
| Previous treatment | | | | | |
| Yes | 6 | 50% | 14 | 54% | $\chi^2(1, 38) = 0.05$, $p = .825$ |
| No | 6 | 50% | 12 | 46% | |
| Taking medication | | | | | |
| Yes | 6 | 50% | 6 | 31% | $\chi^2(1, 38) = 1.31$, $p = .253$ |
| No | 6 | 50% | 18 | 69% | |
| Number of sessions to post assessment | 7.2 | 2.5 | 9.0 | 3.0 | $t(36) = 1.88$, $p = .068$ |
| Number of weeks to post assessment | 14.0 | 4.8 | 12.9 | 5.7 | $t(36) = 0.61$, $p = .546$ |
| Total number of sessions to follow-up | 7.3 | 2.5 | 10.3 | 3.5 | $T(36) = 2.63$, $p = .013$ |
| Number of weeks post to follow-up | 22.7 | 8.3 | 23.9 | 3.9 | $t(30) = 0.31$, $p = .762$ |

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**Table 2**

Treatment outcome for the treatment as usual (TAU) and cognitive therapy (CT) cohorts

| | TAU (*n*=11) | | CT (*n*=24) | | Group effect $\chi^2$ or ANCOVA with effect sizes |
|---|---|---|---|---|---|
| | **Mean or *N*** | ***SD* or %** | **Mean or *N*** | ***SD* or %** | |
| Panic free rate (assessor rated) | | | | | |
| Post-treatment | 2/11 | 18% | 14/24 | 58% | $\chi^2(1,35) = 4.90$, $p = .027$, $\eta^2 = .140$ |
| 6-month follow-up | 2/9 | 22% | 15/22 | 68% | $\chi^2(1,31) = 5.45$, $p = .020$, $\eta^2 = .176$ |
| Panic free rate (patient rated) | | | | | |
| Post-treatment | 1/11 | 9% | 15/24 | 63% | $\chi^2(1,35) = 8.67$, $p = .003$, $\eta^2 = .248$ |
| 6-month follow-up | 3/11 | 27% | 15/24 | 63% | $\chi^2(1,35) = 3.75$, $p = .053$, $\eta^2 = .107$ |
| Panic severity (0-8) (assessor rated) | | | | | |
| Pre-treatment | 5.55 | 1.44 | 5.87 | 1.49 | |
| Post-treatment | 3.00 | 1.67 | 1.39 | 1.85 | $F(1,31) = 8.10$, $p = .008$, $\eta^2 = .207$ |
| 6-month follow-up | 2.44 | 2.24 | 1.27 | 1.96 | $F(1,28) = 2.03$, $p = .166$, $\eta^2 = .067$ |
| Panic severity (0-8) (patient rated) | | | | | |
| Pre-treatment | 6.09 | 1.51 | 6.10 | 1.81 | |
| Post-treatment | 3.46 | 2.07 | 1.58 | 2.02 | $F(1,32) = 7.05$, $p = .012$, $\eta^2 = .181$ |
| 6-month follow-up | 2.36 | 1.63 | 1.63 | 2.04 | $F(1,32) = 1.09$, $p = .304$, $\eta^2 = .033$ |
| Agoraphobic avoidance (FQ, 0-15) | | | | | |
| Pre-treatment | 6.18 | 3.71 | 6.96 | 3.03 | |
| Post-treatment | 6.32 | 4.57 | 4.10 | 4.07 | $F(1,28) = 4.58$, $p = .041$, $\eta^2 = .141$ |
| 6-month follow-up | 5.66 | 5.09 | 3.54 | 4.08 | $F(1,32) = 4.27$, $p = .047$, $\eta^2 = .118$ |
| Agoraphobic cognitions – Frequency (ACQ, 18-90) | | | | | |

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| | TAU (*n*=11) | | CT (*n*=24) | | Group effect $\chi^2$ or ANCOVA with effect sizes |
|---|---|---|---|---|---|
| | **Mean or *N*** | ***SD* or %** | **Mean or *N*** | ***SD* or %** | |
| Pre-treatment | 47.46 | 11.86 | 40.63 | 13.67 | |
| Post-treatment | 36.64 | 13.67 | 24.79 | 10.17 | $F(1,32) = 4.82$, $p = .035$, $\eta^2 = .131$ |
| 6-month follow-up | 37.18 | 13.45 | 24.83 | 10.62 | $F(1,32) = 5.15$, $p = .030$, $\eta^2 = .138$ |
| Agoraphobic cognitions – Belief (ACQ, 0-1800) | | | | | |
| Pre-treatment | 696.8 | 377.5 | 553.1 | 267.4 | |
| Post-treatment | 408.2 | 370.1 | 121.6 | 259.6 | $F(1,32) = 4.95$, $p = .033$, $\eta^2 = .134$ |
| 6-month follow-up | 383.5 | 385.6 | 122.2 | 263.5 | $F(1,32) = 3.63$, $p = .066$, $\eta^2 = .102$ |
| General tension and anxiety (0-8) (assessor rated) | | | | | |
| Pre-treatment | 4.45 | 1.92 | 5.83 | 1.50 | |
| Post-treatment | 2.91 | 2.07 | 1.91 | 1.93 | $F(1,31) = 1.53$, $p = .225$, $\eta^2 = .047$ |
| 6-month follow-up | 3.44 | 2.74 | 1.27 | 1.55 | $F(1.27) = 6.27$, $p = .018$, $\eta^2 = .183$ |
| General tension and anxiety (0-8) (patient rated) | | | | | |
| Pre-treatment | 5.09 | 1.92 | 5.91 | 1.83 | |
| Post-treatment | 3.73 | 2.24 | 1.39 | 1.72 | $F(1,31) = 12.51$, $p = .001$, $\eta^2 = .288$ |
| 6-month follow-up | 3.09 | 2.12 | 1.50 | 1.75 | $F(1,32) = 4.66$, $p = .039$, $\eta^2 = .127$ |
| Anxiety (BAI, 0-63) | | | | | |
| Pre-treatment | 34.9 | 12.4 | 35.2 | 9.0 | |
| Post-treatment | 19.9 | 13.1 | 10.3 | 11.2 | $F(1,32) = 4.86$, $p = .035$, $\eta^2 = .132$ |
| 6-month follow-up | 18.7 | 16.0 | 11.8 | 12.2 | $F(1,32) = 1.95$, $p = .172$, $\eta^2 = .132$ |
| Depression (BDI, 0-63) | | | | | |
| Pre-treatment | 21.8 | 15.4 | 21.8 | 7.3 | |
| Post-treatment | 16.5 | 14.0 | 11.0 | 11.8 | $F(1,31) = 2.46$, $p = .127$, $\eta^2 = .074$ |

| | TAU (*n*=11) | | CT (*n*=24) | | Group effect $\chi^2$ or ANCOVA with effect sizes |
|---|---|---|---|---|---|
| | **Mean or *N*** | ***SD* or %** | **Mean or *N*** | ***SD* or %** | |
| 6-month follow-up | 12.9 | 11.0 | 11.0 | 12.9 | $F(1,32) = 0.25$, $p = .623$, $\eta^2 = .008$ |

ANCOVA: analysis of covariance controlling for baseline scores

FQ: Fear Questionnaire

ACQ: Agoraphobic Cognitions Questionnaire

BAI: Beck Anxiety Inventory

BDI: Beck Depression Inventory





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