A Randomized Trial of Cognitive Group Therapy vs. Waiting List for Patients with Co-Morbid Psychiatric Disorders: Effect of Cognitive Group Therapy after Treatment and Six and Twelve Months Follow-Up

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Abstract. The aim of the study was to assess the effectiveness of cognitive group therapy compared to a waiting list in a sample of patients with heterogeneous non-psychotic disorders. Participants in this study were referred from either the psychiatric in- or outpatient clinic at the psychiatric university hospital in Trondheim, Norway. The patients were assessed with SCID I and SCID II, and randomized either to cognitive group therapy ($n = 15$) or to a waiting list ($n = 17$). Self-report assessments of symptoms and interpersonal difficulties were administered at the start of therapy, after termination of therapy (8 weeks), and at 6 months and 12 months follow-up. Thirty-two patients completed 8 weeks of therapy. Results showed that an 8-week program of CBGT performed better than the waiting list controls, on symptom relief at post-treatment for all patients. The effects of therapy were still upheld at 6 and 12 months follow-up. Cognitive therapy seems to be useful and effective in a group format in naturalistic clinical settings, with patients suffering from various forms of non-psychotic co-morbid psychiatric disorders.

Keywords: Cognitive group therapy, co-morbid disorders, anxiety, depression.

Introduction

Co-morbidity of psychiatric disorders in patients is more often the rule than the exception in clinical practice. Results from a WHO-study (Sartorius, Ustun, Lecruiber and Wittchen, 1996),

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concluded that the most common co-concurrent psychiatric disorders in primary health care were depression and anxiety. Sandura, Beck and Beck (1990) found in their clinical sample of 260 patients with principal diagnoses of depression that 59% also reported co-morbid diagnosis of anxiety. The National Comorbidity Survey in the United States showed that 58% of the respondents, who reported a lifetime depression, also had anxiety disorders (Kessler et al., 1994). Thus in clinical practice it is important to work with treatment formats that address co-morbidity of depression and anxiety.

Meta-analyses have shown that cognitive behavioural group therapy (CGT) is effective for treating a wide range of specific psychiatric problems (Petrocelli, 2002). Morrison (2001) concluded in her review article that the cognitive group therapy approach is equal in effect to individual cognitive therapy for the various anxiety and depressive disorders. However, this finding stands in contrast to a recent study from Germany (Stangier, Heidenreich, Peitz, Lauterbach and Clark, 2003), which reported that cognitive group therapy of social phobia patients was significantly less effective than individual therapy.

To assess the effectiveness of CGT, particular attention has been paid to examine CGT interventions that treat populations that all share specific axis-I disorders. An excellent example of this use of CGT can be found in Heimberg's research in the use of cognitive group therapy in treating social phobia (Heimberg, Juster, Hope and Mattia, 1995; Heimberg, 2002). Outcome studies on specific diagnostic populations are still warranted, but there is also a need for more research on the use and effect of cognitive group therapy in populations with co-morbid disorders. In particular, patients with anxiety, depression and cluster C personality disorders are co-morbid conditions that the clinicians frequently encounter, and patients can be difficult to treat.

To our knowledge, few studies have been conducted to test the effect of CGT on a more heterogeneous sample of patients with psychiatric disorders. Shapiro, Sank, Schafer and Donovan (1982) randomly assigned patients with depressive and anxiety disorders to different treatment modalities. The group in the cognitive group therapy condition received 10 sessions of treatment, and showed significant improvement from pre to post-treatment on both levels of anxiety and depression. At post-treatment it was demonstrated a large effect size on anxiety measured by the Spielberger–State-Trait-Inventory, and a moderate effect size on depression, measured by the Beck Depression Inventory. The study of Shapiro et al. (1982) had just 10 subjects enrolled in the group receiving cognitive group therapy. Manning, Hooke, Tannebaum, Blythe and Clarke (1994) evaluated the efficacy of a combined treatment of medications and a closed group, intensive (2-week) cognitive behaviour therapy program for co-morbid psychiatric disorders, in an uncontrolled study with a sample of 531 patients. Using the Beck Depression Inventory and the Spielberger–State-Trait-Inventory, they found clinically significant improvements in the levels of depression and anxiety, which were also maintained at 6-month follow-up. For the completers of therapy they reported large effect sizes on both depression and on anxiety (state and trait) at post-treatment and by 6-month follow-up. Kush and Fleming (2002) had 26 outpatients complete a 12-session group cognitive therapy program specifically designed to treat individuals with co-morbid depressive and anxiety symptoms. Participants in this study showed significant improvement on measures of depression, anxiety and dysfunctional attitudes from pre-to post-test, with large effect sizes for depression, and moderate effect sizes for anxiety. These trials indicate that CGT is effective in treating co-morbid and heterogeneous samples, but there seems to be a need for improvement in the designs, by using a longer period of follow-up, and in using waiting list controls in these trials.

The aim of the present study was to assess the effectiveness of cognitive therapy in a group format in samples with co-morbid, non-psychotic psychiatric disorders by comparing with a waiting list condition. More knowledge about the long term effects of CGT is warranted; therefore the effectiveness at 6- and 12-month follow-ups was also assessed.

Method

Design

The trial had a randomized controlled comparative pre-post design. The participants were measured pre-treatment, post-treatment (8 weeks), at 6 and 12-month follow-up. Half of the participants were randomized into a waiting list control condition. The patients who served as waiting list controls waited 8 weeks from randomization before the commencement of treatment.

Participants

A total of 49 participants were referred from psychologists and psychiatrists working at the psychiatric in-patients clinic or the psychiatric outpatient clinic, at the psychiatric university hospital in Trondheim. Patients with psychosis, substance abuse, suicidal behaviour and cluster A or cluster B personality disorder were excluded. The remaining participants ($N = 46$) were randomized, by drawing lots, to either a cognitive behavioural group therapy program or a waiting list. Two of the authors assessed all the participants with the Structured Clinical Interview for the DSM-IV, on axis I (First, Spitzer, Gibbon and Williams, 1995) and axis II (First, Spitzer, Gibbon, Williams and Benjamin, 1994). The number of participants in each group was limited to 8 participants. Thirty-two subjects completed 8 weeks of therapy. There were 22% males, and 78% females in the sample, with a range in age from 20 to 60 ($M = 38,12$, $SD = 10,21$). The sample that completed therapy fulfilled the criteria of 73 diagnoses based on the SCID: sixty-four diagnoses on Axis I, and 9 diagnoses on Axis II. The most common diagnoses were anxiety disorders, followed by depressive disorders (see Table 1). Sixty-four percent used psychopharmacological medication in at least 6 months before they started therapy. The patients who were on medication did not change their dosage, or the specific medication during the cognitive group treatment or at follow-up.

Measures

The Symptom Checklist 90-Revised (SCL-90-R, Derogatis, 1983) was used to measure general psychiatric distress. SCL-90-R is a 90-item self-report designed to screen for a broad range of psychological problems and distress during a one-week period prior to administration. Each of the 90 items is rated on a 5-point scale of distress ranging from none to extreme. In addition to a total score (General Symptom Index), the SCl-90-R yields scores on nine subscales. The SCL-90-R has evidenced good psychometric properties (Bech et al., 1992; Derogatis and Cleary, 1977; Lipman, Covi and Shapiro, 1979).

The Beck Depression Inventory (BDI; Beck, Rush, Shaw and Emery 1979) was used to measure depression. The BDI is a 21-item self-report inventory that has been shown extensively

Table 1. The patients' age, sex, and diagnoses

	Waiting list controls ($n = 17$)	CBGT ($n = 15$)	Total ($N = 32$)
Age (Mean, *SD*)	38.82 (11.57)	37.33 (8.76)	38.12 (10.21)
Sex (*n*)			
Females	14	11	25
Males	3	4	7
Diagnoses (*n*)			
Anxiety disorders	28	17	45
Depressive disorders	9	7	16
Eating disorders	1	2	3
Cluster C personality disorders	6	3	9
Total Axis I	38	26	64
Total Axis II	6	3	9
Total number of diagnoses	44	29	73

Note: Each patient could receive more than one diagnosis.

to be a reliable and valid measure of syndrome depression severity in both clinical and non-clinical populations (Beck, Steer and Garbin, 1988).

The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown and Steer, 1988) is a 21-item self-report instrument that measures anxiety severity for the past week, including the day of completion. The BAI is established as a reliable and valid measure, and is recommended as a companion instrument to the BDI, particularly for individuals with co-morbid depression and anxiety (Beck and Steer, 1993).

The Sociotropy-Autonomy Scale (SAS; Beck, Epstein, Harrison and Emery, 1983) is a 60-item self-report inventory that measures two stable, independent dimensions of cognitive traits called sociotropy and autonomy. Sociotropy refers to dependent traits, characterized by an intense need for love, approval and being esteemed by others. Autonomy is defined as an excessive personal demand for accomplishment and freedom from control by others. Thirty items assess sociotropy and 30 items assess autonomy. Test-retest reliability has been reported to be overall high for both scales.

Inventory of Interpersonal Problems 64-Circumplex (IIP-64C; Alden, Wiggins and Pincus, 1990) is a self-report inventory designed to measure interpersonal problems. The IIP–64-C has eight scales that form a circumplex of interpersonal problems around the octants of dominance and nurturance. This measure shows strong convergence between self-, therapist-, and peer-rating profiles. It discriminates between subgroups of depressed and of socially anxious clients, and has strong test–retest reliability (total $r = .98$; average subscale $r = .81$), and acceptable to good alpha coefficients (.72–.85) (Horowitz, Rosenberg, Baer, Ureno and Villasenor, 1988; Kachin, Newman and Pincus, 2001). Client improvement as measured by the IIP–64-C has agreed with improvement in other client self-report measures, therapists' judgements, and independent observer ratings (Horowitz et al., 1988). In this study the total score was used.

The Young Schema Questionnaire (YSQ; Young, 1994) is a 205-item questionnaire, developed to measure 16 schemas. The items are answered on a 6-point Likert Scale, ranging from "almost never true on me" to "almost always true on me". In addition to a total score, you can also calculate scores on the 16 schemas. Schmidt, Joiner, Young and Telch (1995) and Lee, Taylor and Dunn (1999) have demonstrated that the YSQ has good levels of psychometric properties and clinical utility. In this study the total score was used.

Three of the 32 subjects did not complete the questionnaires at 12-month follow-up; some patients also did not fill out all of the questionnaires at follow-up assessment.

Statistical analyses

The primary analyses at post-treatment and follow-up were based on patients who completed all questionnaires, and at all times of assessment. The main statistical analyses of the outcome data were therefore based on per-protocol analysis.

Pre-treatment group differences between dropouts and completers, and between CGT and waiting list were tested by independent *t*-tests. To examine differences between CGT and the waiting list condition, ANCOVAs were computed at post-treatment using pre-treatment scores as covariates. Outcome data from the total sample of CGT were calculated in several ways. Mean scores for different inventories were used in ANOVAs with repeated measures (full factorial model) using pre-treatment scores as a reference point, and then compared scores at post-treatment, 6 and 12-month follow-up to pre-treatment scores (called simple contrast for repeated measures). Effect sizes (ES) were calculated for each measurement at post-treatment and 6 and 12-month follow-up. Effect sizes are sometimes categorized as controlled versus uncontrolled. (Feske and Chambless, 1995). In this study uncontrolled ES were used.

Treatment

The participants received 8 weeks of treatment, with two sessions each week, in all 16 sessions of 90 minutes duration. The participants were randomized into treatment and a waiting list condition. The manual for the treatment was based on Free (1999) but modified by the authors (HMN). As in Free's manual, the CGT-program was delivered as a mix consisting of psycho-education related to depression and anxiety, group exercises and homework tasks. The program can be seen as existing of three major equal parts that can be summarized as: Part 1: The cognitive group therapy starts with socialization to cognitive therapy. Using aids as automatic thoughts records and the ABC-model, where the group members learn to identify thoughts, feelings and behaviours in specific situations. The participants also work with their core beliefs and learned techniques to challenge them. The therapists encourage the use of self-monitoring in and outside therapy, using a variety of core cognitive techniques. Part 2: In the middle part of the cognitive group therapy, the participants start to dispute or challenge their irrational beliefs and automatic thoughts. They practise with other group members by using role-play and *in vivo* exposure, and in addition behavioural experiments. Methods of cognitive restructuring to identify and to replace distorted or dysfunctional thinking is introduced, and practised among the group members. Part 3: The final part of the program, the cognitive group therapy, is focused at termination of therapy. The therapists prepare the group members for setbacks, and the group members try to develop coping strategies for themselves (and other

group members), in situations in which they could be vulnerable for relapse after termination of therapy.

Therapists

Two experienced cognitive therapists conducted the therapy, and they had supervision on a weekly basis. Video-recordings of the third and the tenth treatment-session were used to rate the competence of the therapists using the Cognitive Therapy Scale (Young and Beck, 1980). The rating was done by one of the authors. Cognitive Therapy Scale have shown a moderate to high inter-rater reliability, and the discriminant validity scores clearly suggest that CTS measures levels of cognitive therapy competency (Vallis, Shaw and Dobson, 1986). The two therapists in our study received an overall mean score of 4.18 ($SD = 0.32$) and 4.05 ($SD = 0.29$) on the Likert scale, ranging from zero ("low competence") to six ("high competence"), which are regarded as acceptable levels of therapist competency in cognitive therapy (Vallis et al., 1986).

Results

Dropouts versus completers

The dropout rate was 30%. This dropout group includes patients who did not attend CGT after the initial SCID–interview (17%), and patients who dropped out of CGT, after attending one or two sessions (13%). The results showed no significant differences between the "dropout-group" and the ones who completed the group therapy, in terms of age, gender, dose or type of medication, or the mean number of diagnoses per patient. In addition, there were no differences in proportion of axis-II disorders between the dropouts compared to the completers. The same analyses were undertaken comparing the CGT group and the waiting list controls on the same variables as mentioned above, and no significant differences between these groups were found.

Cognitive group therapy versus waiting list controls after 8 weeks

Results showed that there were significant reductions of depression and anxiety in the CGT-condition compared to the waiting list condition. There were no significant differences between the CGT and the waiting list controls after 8 weeks on general symptom level, level of interpersonal problems, and level of dependency or severity of early maladaptive schemas (See Table 2 for further details).

Effect of cognitive group therapy

To see if the dropouts would affect the outcome results, an intention to treat analysis was conducted. Patients with missing data at any point during treatment or follow-up were assigned the scores from the last measurement obtained from them. Results of the intention to treat analysis showed no different patterns compared to the sample of completers.

An ANOVA with repeated measures was used to find any significant differences between the pre-treatment scores compared to scores at post-treatment, 6 and 12-month follow-up. The results are shown in Table 3.

Table 2. Means and standard deviations of CGT and waiting list controls post-treatment

| | | Waiting list | | | | | CBGT | | | |
| | | Pre | | Post | | | Pre | | Post | |
Instruments	N	Mean	SD	Mean	SD	N	Mean	SD	Mean	SD
SCL-90	17	1.19	(0.61)	1.15	(0.47)	15	1.15	(0.61)	0.88	(0.59)
BAI	17	20.29	(10.08)	22.94	(13.46)	15	22.60	(14.77)	18.13*	(12.00)
BDI	15	18.20	(8.55)	18.35	(9.00)	15	15.40	(9.86)	11.00*	(8.36)
IIP-64-C	17	1.35	(0.72)	1.28	(0.68)	14	1.22	(0.63)	1.18	(0.76)
SAS-A	16	73.06	(20.23)	60.12	(14.17)	14	62.93	(15.66)	58.57	(18.67)
SAS-S	16	73.87	(20.26)	69.12	(13.99)	15	70.80	(19.16)	60.14	(22.52)
YSQ	16	11.50	(14.15)	10.17	(13.41)	14	7.21	(8.62)	6.63	(11.16)

* = p > .05.

Table 3. ANOVA with repeated measures within subjects, at post-treatment, 6 and 12-month follow-up (per-protocol)

Instrument	Time of measurement	N	Mean	(SD)	df	F
SCL 90-R	Pre	29	1.15	(0.53)		
	Post	29	0.95	(0.59)	(1, 28)	8.46**
	6 months	29	0.84	(0.56)	(1, 28)	8.47**
	12 months	29	0.84	(0.58)	(1, 28)	8.81**
BDI	Pre	28	16.35	(9.35)		
	Post	28	13.39	(8.13)	(1, 27)	5.51*
	6 months	28	9.75	(7.53)	(1, 27)	12.28**
	12 months	28	10.28	(8.14)	(1, 27)	11.67**
BAI	Pre	29	22.27	(14.11)		
	Post	29	19.00	(11.33)	(1, 28)	2.43
	6 months	29	13.41	(9.75)	(1, 28)	14.97**
	12 months	29	15.03	(10.89)	(1, 28)	8.49**
IIP-64 Total index	Pre	28	1.25	(0.66)		
	Post	28	1.28	(0.69)	(1, 27)	0.18
	6 months	28	0.98	(0.61)	(1, 27)	7.12**
	12 months	28	1.04	(0.66)	(1, 27)	4.14
SAS Sociotropy	Pre	27	69.37	(14.07)		
	Post	27	64.37	(17.51)	(1, 26)	2.75
	6 months	27	60.00	(17.67)	(1, 26)	7.57*
	12 months	27	60.48	(20.00)	(1, 26)	5.97*
SAS Autonomy	Pre	28	60.50			
	Post	28	60.42	(13.03)	(1, 27)	0.01
	6 months	28	56.50	(15.38)	(1, 27)	4.37*
	12 months	28	57.07	(18.12)	(1, 27)	1.57
YSQ (Total score)	Pre	29	8.42	(11.69)		
	Post	29	7.46	(10.14)	(1, 28)	0.43
	6 months	29	4.15	(6.26)	(1, 28)	8.71**
	12 months	29	5.29	(7.33)	(1, 28)	3.09

* p > .05; ** p > .01.

Scores on the BDI (depression) and SCL-90-R (general symptom severity) showed a significant reduction from pre to post-treatment. No significant differences were found from pre- to post-treatment on BAI (anxiety), IIP-64-C (interpersonal problems), SAS (dependency or autonomy), and YSQ (maladaptive schemas).

The symptom scores show a significant reduction at both 6 and 12-month follow-up. There were no relapses during the year after termination of the therapy. Inventories measuring levels of interpersonal problems, maladaptive schemas, sociotropy/dependency and autonomy show a significant reduction after 6-month follow-up. At 12-month follow-up these reductions were no longer significant, with the exception of the sociotropy/dependency score.

Outcome results related to medication were explored. Subjects were divided into two groups. One group consisted of those who reported that they were using medication, and the second group consisted of those who were not using any form of medication. By using independent t-tests, we found no significant differences between these two groups except on the post-treatment score on the SCL-90, which showed that participants on medication ($M = 0.76$, $SD = 0.50$), scored lower than non-medicated participants ($M = 1.20$, $SD = 0.61$), $t(30) = -2, 21$, $p < .05$. It could be expected that having an axis-II disorder might affect the outcome of treatment. This was investigated by splitting the subjects in two groups, where having an Axis II- diagnosis constituted one group, and not having an Axis II- diagnosis formed the other group. However, two-tailed independent t-tests showed no significant differences between these two groups.

Effect scores (ES) were calculated for each instrument at post-treatment and 6 and 12-month follow-up. Effect sizes are sometimes categorized as controlled versus uncontrolled. (Feske and Chambless, 1995). An uncontrolled effect size expresses the amount of within group improvement, from pre-treatment to post-treatment. The ES is calculated by subtracting a group's post-treatment mean from its post-treatment mean, and dividing it by the pooled standard deviation (Cohen, 1988). In this trial uncontrolled ES was used. All the symptoms measured showed an increase in effect from post-treatment to the 6-month follow-up. Interpersonal problems, severity of maladaptive schemas, decline in sociotropy/dependency show a similar pattern of response, with better results at the 6-month follow-up compared to the post-treatment measures, but with some decline of effect at the 12-month follow-up (see Figure 1).

Discussion

The results showed that an 8-week program of CGT performed better than the waiting list control with respect to symptom relief at post-treatment, especially for anxiety and depression. On the other inventories that measure interpersonal stress, sociotropy/dependency, and maladaptive schemas, no significant differences were found between the two conditions at post-treatment. However, depression and general psychiatric distress showed a significant reduction from pre-treatment to post-treatment, for all the subjects that completed CGT. Follow-up results showed a strong significant reduction on the general symptom levels at both the 6 and 12-month follow-up. Interpersonal distress, maladaptive schemas, sociotropy/dependency showed no significant differences from pre- to post-treatment, but interpersonal problems, maladaptive schemas and sociotropy/dependency were significantly lower after 6-month follow-up compared to pre-treatment. The sociotropy/dependency score also showed a significant reduction at 12-month follow-up. Results also indicated that medication and the
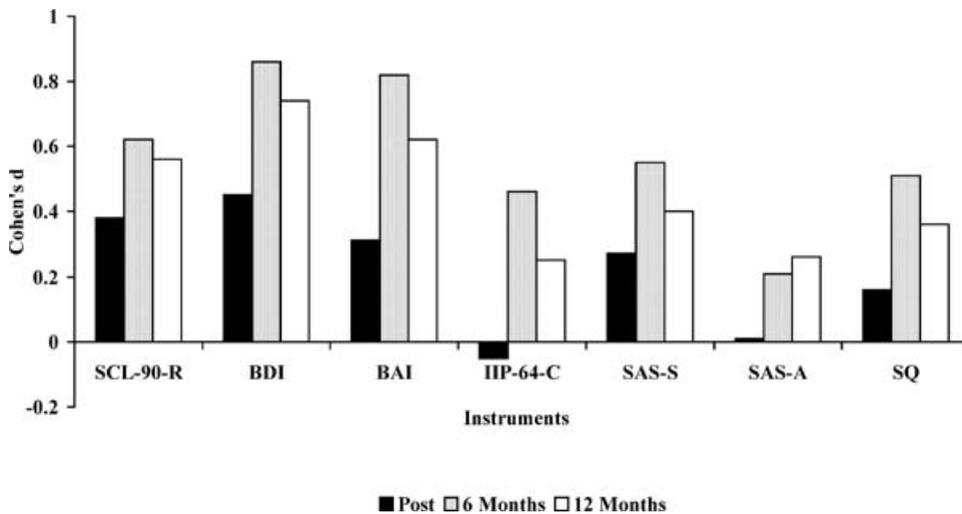
Figure 1. Uncontrolled effect sizes (Cohen's d) for CGT at post-treatment, 6 and 12-month follow-up

presence of an axis II-disorder did not influence the overall effect of CGT on either symptom relief or cognitive change.

The results suggest that the gains of CGT increase also after the end of treatment. Although the treatment period was of short duration and intense, an 8-week program of CGT was effective and the long-term effect showed a clinical and permanent change. It is notable that there was no symptomatic relapse for the treated patients in CGT, which is consistent with the results of Heimberg, Salzman, Holt and Blendell (1993). Our results are comparable with other studies conducted of heterogeneous samples on psychiatric disorders related to outcome (Shapiro et al., 1982; Manning et al., 1994; Kush and Fleming, 2002). Even if the effect-sizes in our study at post-treatment were smaller than these studies have reported, the results at 6 and 12-month follow-up yielded large effect-sizes, especially with respect to symptom relief. Petrocelli reported larger effect sizes on depression than reported in our study at post-treatment, but the effect sizes for depression and anxiety at follow-up are comparable to the results of the trials he has included in his meta-analysis (Petrocelli, 2002).

In addition to the effectiveness in treating symptoms, the therapy has been moderately effective in treating interpersonal problems, maladaptive schemas and autonomy problems. There are several possible interpretations for the moderate effects concerning interpersonal problems and maladaptive schemas. The most plausible explanation is that although the IIP-64 and the YSQ assess rather stable dimensions related to personal traits, they may require a more longer and structured therapy for change to occur. The findings of Schauenberg and colleagues (Schauenberg, Kuda, Samet and Strack, 2000), and Vittengel, Clark and Jarett (2003) also support this explanation.

The results regarding changes in sociotropy and autonomy scores indicated that the participants are becoming less dependent as measured by the sociotropy score, but the group therapy had a lesser impact on the autonomy score, which is consistent with Zettle, Haflich and Reynolds (1992). Zettle et al.'s study also showed that sociotropic subjects who

received group therapy, and autonomous subjects who received individual therapy, showed greater improvement than subjects whose predominant dimensions did not match the type of treatment received. Thus, it should be considered to compose groups of patients who are high scorers in sociotropy and low scores on autonomy to increase impact of the CGT. Another explanation of the non-significant results of the autonomy score is suggested on the basis of Bieling and Alden's study (2001). They suggest that autonomy, especially combined with depression, may undermine the formation of a strong therapeutic alliance, perhaps lessening the impact of therapy. The moderate results concerning personality related psychopathology indicate that the therapist, in order to have an effect on interpersonal problems, maladaptive schemas and autonomy, should work specifically with these features, which was not done in this study.

There are some limitations of this study. The high rate of dropout could have influenced our results, even if this rate is quite common in clinical trials. The sample size is rather small but comparable to other studies of CGT.

The present study has shown that cognitive group therapy might be useful for treating co-morbid states of anxiety and depression. Specific treatments for specific disorders seem to be more effective than this group-based treatment of co-morbid disorder, as reported by Petrocelli (2002). However, occurrence of co-morbidity and heterogeneity of disorders is a common problem in psychiatric services, where cognitive group therapy could be useful. The treatment is time and resource saving for the therapist, suggesting that the therapist can treat more patients in a group format than in a standard cognitive therapy, and still with moderate to good effect. Thus, the CGT could be a good alternative to individual cognitive therapy, and especially in settings where there is shortage of competent cognitive therapists.

In sum, an 8-week program of CGT seems to have a favourable effect both on the short term and the long term. Cognitive therapy can be conducted in a group format aimed at treating patients suffering from co-morbid states of anxiety and depression. In addition, the patients had a long history of psychiatric treatment prior to the cognitive group treatment, which did not seem to have been beneficial for them.

The results merit further studies designed to find out which patients profit the best using an intensive 8-week program of cognitive group therapy, and who will not.

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