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Cognitive self-therapy for chronic depression and anxiety: a multi-centre randomized controlled study

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ABSTRACT

Background. Non-professional treatment programmes are presumed to relieve the extensive need for care of anxiety and depression disorders. This study investigates the effectiveness of cognitive self-therapy (CST) in the treatment of depression or generalized anxiety disorder.

Method. Patients ($n=151$) were randomized to receive CST or treatment as usual (TAU) in a trial lasting for 18 months, measuring symptoms (SCL-90; main outcome), social functions, quality of life and utilization of care.

Results. Patients in both conditions improved significantly, but no difference was found between the conditions. Reduction of symptoms, improvement of social functions and medical utilization were maintained at the end of the 18 months. Medical care utilization (therapist contact and hospitalization) was lower for CST than for TAU. No suicides occurred.

Conclusions. Cognitive self-therapy is likely to decrease the need for care of chronic depression and anxiety disorders, but it has not been proven to be more effective than treatment as usual.

INTRODUCTION

Evidence-based treatment strategies for the treatment of chronic and remittent depression and anxiety disorders cannot be recommended unequivocally by applying guidelines. Alternative treatment programmes are presumed to relieve the extensive need for care of these disorders (Bebbington *et al*. 1997; Andrews *et al*. 1998) that are becoming a serious medical condition, as is reflected by the likely worldwide burden of these diseases in the coming decades (Murray & Lopez, 1997). Self-help manuals (den Boer *et al*. 2004), coping-with-depression courses (Cuijpers, 1998), and paraprofessionals or peer co-therapists (den Boer *et al*. 2005) are effective in the treatment of depression and anxiety disorders and may improve the overall cost-effectiveness of mental health service provision. The available evidence, however, is limited in quantity and quality and there are no data concerning the long-term clinical benefits or cost-effectiveness (Bower *et al*. 2001). Computer-delivered cognitive behavioural therapy has a high probability of being cost-effective for anxiety and depression in primary care (McCrone *et al*. 2004), while reducing therapist time (Marks *et al*. 2003; Wright *et al*. 2005). Self-help is frequently (63%) used in conjunction with other forms of out-patient mental health-care (Kessler *et al*. 1994).

A longitudinal study with before and after symptom measurements found significant symptom reduction for patients who completed the cognitive self-therapy programme (CST) that integrates manuals, course and paraprofessionals, compared with non-completers provided with treatment as usual (TAU). The

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completers were satisfied with CST and appreciated their independence from a therapist. The objective of the present study was to investigate the effectiveness of CST in a randomized controlled trial. We expected a significant symptom reduction and a decrease of care utilization for CST compared with treatment as usual. In this study depressive disorders and generalized anxiety disorder were considered together, given the large degree of co-morbidity between them and overlap in therapeutic approaches.

METHOD

Study sample

Study participants were recruited and followed from four mental health-care centres in The Netherlands between December 2000 and August 2004. Patients were eligible if they (*a*) met a DSM-IV diagnosis of chronic or recurrent unipolar depressive disorder, dysthymic disorder and/or generalized anxiety disorder; (*b*) had received previous mental health-care related to the assessed diagnosis during more than two years prior to inclusion in the study; and (*c*) were aged between 18 and 65 years. Exclusion criteria were (*a*) suicidal behaviour; (*b*) psychotic symptoms, pervasive developmental disorders; (*c*) current drug or alcohol dependence; (*d*) mental handicap (IQ score $\leqslant 85$); (*e*) previous participation in the CST programme; (*f*) absence of any awareness of personal vulnerability in social contacts and/or relationships; and (*g*) reluctance to participate in groups.

Recruitment

Referred patients with anxiety or depressive features and a history of disease of longer than two years were invited to a screening visit for the study at the initial contact, including a psychiatric assessment.

Patient baseline characteristics

The sample included 100 women and 51 men, with a mean age of 41·3 (S.D. = 9·0) years. One hundred and thirty-five patients (89%) had a unipolar depressive disorder, seven patients (5%) had a dysthymic disorder, and nine patients (6%) had a generalized anxiety disorder (Table 1). Over half (52%) of the patients had co-morbid diagnoses of a depressive or anxiety disorder. The first contact with mental health-care was nearly 13 years before inclusion. Seventy-two per cent used psychiatric medication, significantly more patients in the TAU group than in the CST group. No significant between-group differences were found for demographic (gender, age, living alone, paid employment, level of education) or clinical (primary diagnosis, co-morbidity, first psychiatric contact, family psychiatric history) characteristics, nor for symptom level, social functioning or quality of life, except for the Symptom Checklist-90 (SCL-90) score, which was significantly higher for the TAU condition than for CST. Except for level of education, no between-centre differences were found for demographic and clinical characteristics, nor for the SCL-90 scores.

Patient flow and drop-out

Eighty-three per cent ($n = 151$) of the 182 eligible patients were motivated to participate in the study; 75 of these patients were allocated to CST and 76 to TAU (Fig. 1). Twenty-four patients (16%) dropped out of the study, 10 patients in the CST programme and 14 in the TAU condition. Half of the patients who dropped out could not be traced, mostly patients in the TAU condition. No differences were found for gender, living alone, paid employment, education, nor for psychiatric family history, primary diagnosis, psychiatric medication, contact with psychiatrists or other therapists in the 6 months prior to inclusion, nor for the main outcome measure (SCL-90) on baseline between those who dropped out and those who did not. However, patients who dropped out were about 5 years younger (*t* test: $p < 0{\cdot}05$) and made less use of a combination of somatic and psychiatric medication ($\chi^2 = 4{\cdot}810$; $p < 0{\cdot}05$).

Interventions

Treatment in both conditions took place in outpatient centres. Both conditions involved initial contacts with the patients for the purpose of establishing diagnoses, prescribing medication and in some cases full or partial hospitalization. The CST programme had been uniformly implemented in all participating centres prior to the study.

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Table 1. *Cognitive self-therapy study: demographic and clinical patient characteristics at baseline*

	Total ($n=151$)	CST ($n=75$)	TAU ($n=76$)
Gender			
Male	51 (34%)	23 (31%)	28 (37%)
Female	100 (66%)	52 (69%)	48 (63%)
Age (years)[a]	41·3 (9·0)	40·7 (8·9)	41·9 (9·1)
Living alone			
Yes	39 (26%)	22 (29%)	17 (22%)
No	112 (74%)	53 (71%)	59 (78%)
Paid employment			
Yes	67 (44%)	38 (51%)	29 (38%)
No	84 (56%)	37 (49%)	47 (62%)
Level of education			
Primary school	75 (50%)	34 (45%)	41 (54%)
Secondary school	56 (37%)	32 (43%)	24 (32%)
Higher professional/university	20 (13%)	9 (12%)	11 (15%)
Primary diagnosis			
Depressive disorder[b]	142 (94%)	68 (91%)	74 (97%)
Generalized anxiety disorder[c]	9 (6%)	7 (9%)	2 (3%)
Psychiatric co-morbidity			
Yes	78 (52%)	42 (56%)	36 (47%)
No	73 (48%)	33 (44%)	40 (53%)
Years since first psychiatric contact[a]	12·7 (8·3)	12·2 (7·6)	13·1 (9·0)
Psychiatric family history			
Yes	76 (50%)	35 (47%)	41 (54%)
No	75 (50%)	40 (53%)	35 (46%)
Use of psychoactive medication			
Yes	108 (72%)	47 (63%)	61 (80%)
Antidepressants	54 (50%)	24 (51%)	30 (49%)
Anxiolytics	13 (12%)	6 (13%)	7 (12%)
Antidepressands + anxiolytics	39 (36%)	15 (32%)	24 (39%)
Antipsychotics	6 (6%)	3 (6%)	3 (5%)
No	43 (29%)	28 (37%)	15 (20%)
Somatic medication			
Yes	77 (51%)	38 (51%)	39 (51%)
No	74 (49%)	37 (49%)	37 (49%)
Psychoactive + somatic medication			
Yes	55 (36%)	25 (33%)	30 (40%)
No	96 (64%)	50 (67%)	46 (61%)

Continuous variables (age and years since first psychiatric contact, total SCL-90 score) were analysed with Student's t tests. For the dichotomous variables, level of education and medication, a χ^2 test was used.

[a] Mean (S.D.); [b] DSM-IV 296·2, 296·3, 300·4; [c] DSM-IV 300·02.

CST, Cognitive self-therapy; TAU, treatment as usual.

Treatment as usual (*TAU*)

TAU consisted of psychological therapy delivered by professionals not according to a study protocol. Interpersonal psychotherapy and cognitive behavioural therapy could be part of the treatment and were provided by a psychologist. In other cases, supportive treatment was given by a psychiatric nurse or social worker focusing on problem-solving and coping strategies. Treatment consisted typically of 10–20 visits of 30–45 min each, throughout the first 6–12 months. Follow-up contacts with therapists were provided if needed.

Cognitive self-therapy (*CST*)

CST is a structured method, based on cognitive behavioural and interpersonal therapy principles, that seeks to restructure cognitive schemata by focusing on problems in social functioning and relationships. Patients use a CST manual (den Boer & Raes, 1997) that acquaints them with the treatment principles. The patient's role in the treatment gradually evolves

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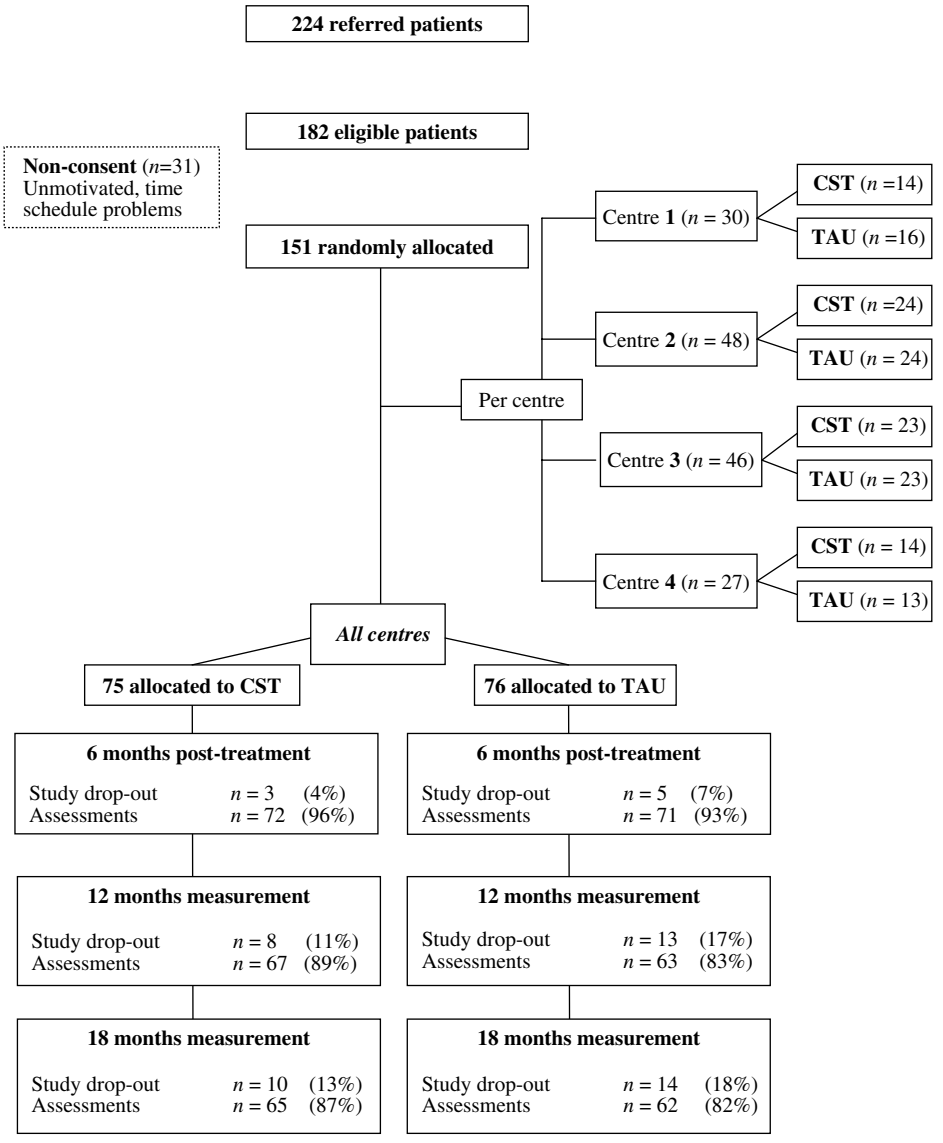


FIG. 1. Cognitive self-therapy study: patient flow and study drop-out.

into that of a 'paraprofessional', such that they finally conduct CST sessions in reciprocal relationships with peers. Participants are taught in groups of 6–24 participants without any therapeutic group interaction. All exercises are done by two or maximum three peers working together. The CST programme of 12 weeks' duration consists of the following phases: (1) a preparatory phase (one to three 45-min meetings), providing information and determining the extent to which patients are willing and able to participate in the CST course; (2) an orientation course of three weekly morning meetings to practise with peers before deciding to continue into the next phase; (3) a basic course of five weekly, day-long sessions in which patients learn to manage CST sessions. Those who perform CST sessions adequately with peers are certified to participate in the fourth phase of the CST programme: (4) weekly self-therapy

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meetings, which are led by peers in accordance with the manual. Certified patients have the option of participating in CST whenever they like. Each CST session lasts between 30 and 40 min, is highly structured, and consists of four time-limited steps: exploration of a recent life event (5 min); exploration of an associated past life event between childhood and present age (5 min); an associated childhood event (5–15 min); reflection to gain insight into individual patterns of emotion, cognition, behaviour and needs in relation to others, cognitive restructuring, and planning of new behaviour (15 min).

Treatment integrity

The TAU condition did not follow a uniform treatment protocol, but all contacts with therapists were registered. An hour-by-hour structured programme was prescribed for the CST condition. Adherence to the programme and additional contacts with therapists were registered.

Therapists

All therapists in both conditions worked in teams comprising psychiatric nurses, social workers, a psychologist, a psychiatric trainee and a senior psychiatrist. CST teachers included psychiatric nurses, social workers and psychologists who had been trained to perform CST programmes and to teach the CST method to patients. CST teachers provided the CST condition and were not involved in treatment as usual. The remaining therapists provided treatment as usual, but also could be involved in CST when patients stopped with the CST programme and still needed treatment.

Study design

Applying power analysis, based on a 23-point difference on the SCL-90 in the observational study (a difference found between participants who completed the programme and those who dropped out after the orientation course and received treatment as usual), it was estimated that 61 patients were required in each treatment condition to detect such a difference (S.D. = 50), with an alpha value of 0·05 and power of 80% (STAT-power) (Bavry, 1991). Anticipating a study drop-out rate of 20%, it was necessary to randomize a total of 150 patients in order to be assured of having 61 patients in each treatment condition.

We conducted a randomized controlled trial. Informed written consent was obtained from eligible participants ($n = 151$). An independent central randomization telephone service of the University Medical Center Groningen used sealed envelopes to allocate patients randomly to each condition after completion of baseline measurements. Stratified randomization according to age (<40 years) and illness duration (<7 years) within each centre was used. Random permutated blocks of four were used within each stratum. Independent researchers assessed patients using semi-structured interviews and self-report scales.

Data were collected at baseline and at 6, 12 and 18 months after baseline. The main outcome measure was symptom improvement measured by the SCL-90 as it was the outcome measure of the pilot study on which the power analysis was based. Specific measures of anxiety and depression have been used as well.

This study was approved by the Medical Ethical Board of the University Medical Center Groningen, University of Groningen (MEC 98/12/214c).

Measures

The following measures were used:

(1) A diagnostic computer algorithm delivered DSM-IV diagnoses based on responses to the Schedules for Clinical Assessment in Neuropsychiatry (SCAN; WHO, 1992), a semi-structured interview.

The primary outcome measure was the Symptom Checklist-90 (SCL-90; Derogatis, 1977; Arrindell & Ettema, 1986), a multidimensional self-report measure of general psychiatric symptomatology consisting of nine subscales: somatization, obsessive-compulsivity, interpersonal sensitivity, anxiety, hostility, phobic anxiety, paranoid ideation, psychosis, and depression. Total scores range from 0 to 4.

(2) The Beck Depression Inventory (BDI; Beck & Steer, 1993), a self-report inventory for assessing the severity of depressive symptoms. Total scores range from 0 to 63.

(3) The State-Trait Anxiety Inventory (STAI; Spielberger *et al.* 1970), a self-report

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instrument measuring state anxiety ('right now' questions) and trait anxiety ('generally' questions). Total scores range from 20 to 80.

(4) The World Health Organization Quality of Life Assessment (WHOQoL-Bref; WHOQoL Group, 1998), a self-report questionnaire, measuring general quality of life, general health evaluation and four additional domains of quality of life (physical, psychological, social and environment). Total scores range from 26 to 130.

(5) The Groningen Social Disabilities Schedule (GSDS; Wiersma *et al.* 1988; Schutzwohl *et al.* 2003), an observer-rated semi-structured interview to assess social functioning in eight different role domains: self-care, family, kinship, partner, parent, citizen, social, and work. The scores range from 0 to 3 and the total score ranges from 0 to 21. The mean social role score was also included.

Three raters with university-level education in psychology or regular health science were specially trained to perform the SCAN and GSDS interviews. Booster sessions were held to prevent a drift in rating. Raters were fully independent from the mental health staff and were regularly supervised.

The SCAN was completed at baseline, before randomization, and at the follow-up after 18 months. The SCL-90, BDI, STAI and WHOQoL were assessed at baseline, at post-treatment after 6 months and at follow-up after 12 and 18 months. The GSDS was measured at baseline and at follow-up after 12 and 18 months. The number of psychiatric contacts, medication, and partial or full hospitalization were registered at all assessments for the 6 months prior to the assessment, using information from structured interviews and medical files.

Analysis

Between-group baseline characteristics were analysed with Student's t tests for continuous variables and Pearson χ^2 tests for categorical variables. All symptom measures (SCL-90, BDI and STAI) and the WHO-QoL were analysed using mixed models, a repeated measurement analysis that uses all available data. The model included the main effects of treatment condition and assessment time and their interaction, with a random effect of subject. To account for the difference in baseline scores on the SCL-90, that baseline score was entered into the model as a covariate for each of the symptom measures. The group effect was tested with the Mann–Whitney U test, and the assessment time effect was tested with the Kruskal–Wallis rank sum test for the categorical variables that were obtained from the GSDS. Between-centre differences were analysed with univariant analysis of variance (ANOVA) for continuous variables and Pearson χ^2 tests for categorical variables. The main outcome analysis consisted of an 'intention to treat' analysis that included all of the randomized patients. p values less than 0·05 were considered significant. Data were analysed using the SPSS version 12.0.2 for Windows (SPSS Inc., Chicago, IL, USA).

RESULTS

Main outcome, symptom level and diagnosis

Means and standard deviations of the symptom measures (SCL-90, BDI, STAI) are presented in Table 2 and the ANOVA tables in Table 3. The mixed effects analysis showed a significant time effect, but no significant difference between treatment conditions, neither of the main effect nor interaction with time. Later assessments showed lower scores on symptom measures for both treatment conditions. Forty-five (35%) patients still satisfied the criteria for an Axis-I DSM-IV diagnosis at 18 months, as measured with the SCAN (37 patients had a depressive disorder, two a dysthymic disorder, one generalized anxiety disorder and five patients had another anxiety disorder). No difference was found between the conditions ($\chi^2 = 1{\cdot}503$; $p = 0{\cdot}472$). Twenty-five (20%) patients had comorbidity on Axis I, less in the CST condition than in TAU ($\chi^2 = 4{\cdot}431$, $p = 0{\cdot}035$).

Secondary outcome, social functioning and quality of life

Total GSDS score and the subscale of work role improved significantly in both conditions, without significant differences between the conditions. The subscales of self-care, family role and kinship role improved significantly in the

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Table 2. *Cognitive self-therapy study: symptom ratings – means and standard deviations*

	CST		TAU	
	n	Mean (S.D.)	*n*	Mean (S.D.)
SCL-90 total score				
Baseline	75	2·42 (0·60)	76	2·65 (0·65)
6 months	70	2·05 (0·67)	71	2·34 (0·79)
12 months	64	2·03 (0·76)	59	2·24 (0·89)
18 months	62	1·98 (0·74)	59	2·23 (0·84)
SCL-90 subscore depression				
Baseline	75	2·91 (0·76)	76	3·24 (0·81)
6 months	70	2·33 (0·86)	71	2·72 (0·96)
12 months	64	2·31 (0·96)	59	2·46 (1·08)
18 months	62	2·25 (0·96)	59	2·45 (1·01)
SCL-90 subscore anxiety				
Baseline	75	2·44 (0·83)	76	2·71 (0·92)
6 months	70	2·05 (0·80)	71	2·40 (1·03)
12 months	64	1·98 (0·90)	59	2·29 (1·08)
18 months	62	2·00 (0·89)	59	2·30 (1·02)
BDI				
Baseline	75	22·4 (9·1)	76	25·0 (10·1)
6 months	70	17·5 (10·0)	71	19·6 (11·5)
12 months	64	17·4 (11·9)	59	18·4 (12·6)
18 months	62	15·4 (11·2)	59	18·6 (12·9)
STAI: state anxiety				
Baseline	74	53·9 (10·6)	76	56·0 (13·0)
6 months	70	48·2 (12·6)	69	52·0 (13·9)
12 months	64	47·2 (13·7)	52	49·7 (16·7)
18 months	62	46·7 (13·6)	59	50·0 (15·6)
STAI: trait anxiety				
Baseline	74	60·2 (8·0)	76	62·3 (9·8)
6 months	70	52·8 (11·4)	69	56·7 (13·9)
18 months	62	50·1 (13·0)	59	54·3 (15·0)

CST, Cognitive self-therapy; TAU, treatment as usual.

CST group. Citizen role and partner role improved for TAU.

Quality of life improved for both conditions, as indicated by WHO-QoL total scores and the subscale of physical health, but no group differences or interactions between treatment and time were found.

Medical care utilization

Mental health-care utilization related to both treatment conditions was measured using data on medication, full and partial hospitalization, and the number of contacts with a psychiatrist or other therapist (psychologist, psychiatric nurse, social worker). The use of psychiatric medication was significantly decreased for the TAU condition (McNemar test: $p<0·05$), mainly because of a decrease of the combined use of anxiolytic and anti-depressant medication (McNemar test: $p<0·01$), but no differences were found between the conditions nor with respect to the number of contacts with psychiatrists (in the past 6 months). The mean number of contacts in the past 6 months with other therapists was significantly lower for CST than for TAU ($t=-2·148$, df=119, $p=0·034$). The difference was still significant at the past 6 months follow-up ($t=-2·020$, df=119, $p=0·046$) when all contacts within the CST programme, including course and self-therapy meetings, were taken into account. See for all contacts Table 4. During the total study period 11 (15%) patients on TAU and four (5%) patients on CST needed full or partial hospitalization. This was a significant difference ($t=2·241$, df=149, $p<0·05$). Four patients on TAU were admitted twice, which increased the total number of hospitalizations to 15 for the TAU group. No suicides occurred in either condition.

Evaluation of the cognitive self-therapy programme

A total of 68 patients (91%) out of 75 who were included in the CST condition entered the preparatory phase of the CST programme. As there are several points at which patients can leave the CST programme, we consider patients to be non-adherent when leaving during the preparatory or orientation phase. If patients do not continue the programme we consider them not trained and competent to perform a CST session with peers. In those patients, no treatment results were supposed to have occurred due to CST. Thirteen patients stopped before and 23 during the orientation course, including the four patients who needed hospitalization. Thirty-two patients completed the basic course, with 19 patients attending between one and 24 self-therapy meetings. Attendance on all days of the basic course is conditional before patients are allowed to attend self-therapy meetings. Only patients who have completed the basis course will have sufficiently learned all the techniques that are needed to perform CST sessions safely in a reciprocal relationship with peers during self-supported meetings. If necessary, patients who did not adhere to the programme followed TAU. Neither treatment outcome nor adherence was related to any baseline characteristic.

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Table 3. *Cognitive self-therapy study: ANOVA tables of mixed effects analysis*

	Treatment effect			Time effect			Interaction		
	df	*F*	*p*	df	*F*	*p*	df	*F*	*p*
Symptoms									
SCL-90	1, 148	0·57	0·45	3, 379	31·5	<0·001	3, 379	0·13	0·90
Depression	1, 148	0·63	0·42	3, 379	41·5	<0·001	3, 379	0·33	0·80
Anxiety	1, 148	1·17	0·28	3, 379	21·1	<0·001	3, 379	0·14	0·93
BDI	1, 148	0·183	0·67	3, 379	26·3	<0·001	3, 379	0·38	0·77
STAI									
State anxiety	1, 147	1·86	0·18	3, 375	15·5	<0·001	3, 375	0·47	0·70
Trait anxiety	1, 147	2·18	0·14	3, 375	35·0	<0·001	3, 375	0·93	0·42
Social functioning									
GSDS									
Mean total score	1, 148	0·20	0·66	2, 248	24·5	<0·001	2, 248	0·27	0·76
Quality of life: WHO-QoL									
Total score	1, 148	10·5	0·21	3, 379	18·1	<0·001	3, 379	0·43	0·73
Physical health	1, 148	0·61	0·43	3, 379	35·3	<0·001	3, 379	0·83	0·47
Psychological health	1, 148	0·02	0·87	3, 379	15·3	<0·001	3, 379	0·54	0·66
Social relationships	1, 148	1·5	0·21	3, 379	6·2	<0·001	3, 379	0·50	0·21
Environmental	1, 148	5·3	<0·05	3, 379	4·5	<0·01	3, 379	1·6	0·19

Mixed effects analyses of the symptom ratings included a random effect of subject, and were corrected for differences at baseline by means of covariance adjustment.

SCL-90, Symptom Checklist; BDI, Beck Depression Inventory; STAI, State-Trait Anxiety Inventory; GSDS, Groningen Social Disabilities Schedule; WHOQoL, World Health Organisation Quality of Life.

DISCUSSION

The CST programme was not superior on the main outcome of anxiety and depression (SCL-90). However, CST patients needed less medical care. Cognitive behavioural and interpersonal therapy could be offered in TAU, and, in general, supportive and psychological approaches are fairly common in Dutch mental health-care. This might explain the absence of differences.

A limitation was the adherence rate for CST of about 50% which is at the top of the range generally observed for psychotherapy or medication in the treatment of depression and anxiety disorders (Marks, 2002) and higher than was expected (27%). It is unlikely that this was due to patient characteristics measured at baseline. It could be that being taught CST and the process of being certified reflects a rather arduous process which might be responsible for the adherence rate. However, we did not assess for this aspect. Also, we do not know what the adherence rate means exactly to new developments combining professional and non-professional strategies. A variety of adherence rates has been reported, from 5·5% for telephone-administered psychotherapy (Mohr *et al.* 2005) to 59% for minimal-contact psychotherapy (Willemse *et al.* 2004). Motivational problems and lack of time are frequently reported as patient characteristics in case of non-adherence. Studies vary greatly in the selection and inclusion procedure, which might affect a participant's motivation. Also, studies vary from sub-threshold disorders in primary care to patients with chronic disorders referred to mental health-care, as was the case in our study. Non-adherence usually seems to occur in the first phase of these treatments. In the CST programme, participants are even invited to choose at an early stage whether they want to continue the programme, which is in contrast to the professional paradigm (Goldklang, 1991; Humphreys & Rappaport, 1994). Nevertheless, non-adherence occurred mainly in the introduction phase of the programme, indicating that the CST programme resulted in a strong selection procedure within a relatively short time.

Another limitation was a significant between-group difference at baseline for the main outcome measure (SCL-90) as well as for the use of psychiatric medication, both favouring patients in the CST group. It is possible that baseline differences on the SCL-90 were due to the wide range of psychopathology that is included in the SCL-90, and that also for this reason treatment differences on anxiety and depression were

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Table 4. *Cognitive self-therapy study: medical utilization – number of contacts with a psychiatrist and other mental health caregivers with and without cognitive self-therapy contacts in the last 6 months*

	CST[a,b]		TAU[b]		
	n	Mean (S.D.)	*n*	Mean (S.D.)	*p* value
Contacts with psychiatrist					
Baseline	75	0·7 (1·1)	75	1·0 (1·8)	0·260
6 months	72	1·0 (2·1)	70	1·4 (2·1)	0·266
12 months	65	0·6 (1·5)	62	0·9 (1·8)	0·327
18 months	63	0·6 (1·9)	61	0·5 (1·0)	0·614
Contacts with other mental health caregivers, excluding CST contacts					
Baseline	75	3·6 (3·7)	75	4·0 (5·6)	0·631
6 months	72	3·1 (3·5)	70	7·4 (5·8)	0·000
12 months	65	3·3 (5·6)	62	9·0 (10·0)	0·000
18 months	61	3·0 (4·9)	60	5·8 (8·6)	0·034
Contacts with other mental health caregivers, including CST contacts					
Baseline	75	3·6 (3·7)	75	4·0 (5·6)	0·631
6 months	72	9·0 (4·5)	70	7·4 (5·8)	0·103
12 months	66	4·4 (5·8)	62	9·0 (10·0)	0·002
18 months	61	3·4 (5·2)	60	6·0 (8·6)	0·046

Differences between groups were analysed with Student's test.
[a] Each CST session counts for one contact.
[b] Excluding patients with missing data.
CST, Cognitive self-therapy; TAU, treatment as usual.

masked. A control condition comparison was not part of the study design. As length of current episode of the disorder at inclusion and the type of intervention in TAU was not assessed, further analyses of these aspects could not be made. No observer-rated measures were used to assess symptom outcomes with the exception of the assessment of diagnosis and social role functioning; both were not blinded at follow-up assessment. Observer-rated measures seem to improve the results of self-help (den Boer *et al.* 2004), suggesting that self-rater bias might have disadvantaged the CST programme. Because supportive and cognitive behavioural and interpersonal therapy techniques were provided when needed, analysis with respect to type of intervention cannot be provided.

Strengths of the study were a multi-centre design, inclusion of a moderately sized sample of clinically relevant patients, the study duration of 18 months, the low rate of non-eligible cases and the low drop-out rate from the study. These aspects, the intention-to-treat analysis and the naturalistic design of the treatment conditions argue in favour of the generalizability of the study results.

CST shares the theoretical basis of treatment as usual when cognitive behavioural therapy was supplied. However, each CST session explicitly seeks to restructure cognitive schemata by focusing on problems in social functioning and relationship, exploring a recent life event and associated past life and childhood event. As distinctions between childish and mature events are analysed, adaptive cognitions become aware. By means of those sessions, cognitive restructuring becomes part of their psychological skills repertory. Patients themselves choose the themes. Neither professionals nor helping peers actively challenge patient's maladaptive cognitions. The treatment process begins during the training phase and continues for as long as participants attend self-therapy meetings. Meanwhile, most think of self-help as being more appropriate for mild-to-moderate first-episode depression and anxiety disorders, while CST is acceptable and feasible for a moderately to severely ill patient population with chronic depression and anxiety. We think that this is due to the patient's self-control over the treatment process. CST differs from the usual self-help, since it involves taught sessions, peer

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group sessions and minimal professional contact when needed. Since the study subjects had already received considerable previous treatment, CST is a modified self-help in the context of chronicity.

Self-administered treatments are mainly used as first-order treatment (Scogin *et al*. 2003). The National Institute of Health and Clinical Excellence (NICE) recommends guided self-help for mild depression (NICE, 2004). Beating the Blues', a computerized cognitive behavioural therapy (McCrone *et al*. 2004), has been recommended for anxiety and depression in general practice and has been approved by NICE. In a stepped care treatment model, both treatments could be the first choice for mild depression, applicable on a large scale. Evidence-based treatment strategies for the treatment of chronic and remittent depression and anxiety disorders cannot be recommended unequivocally by applying guidelines, although continuous treatment is considered important (APA, 2000). Nevertheless, medication and cognitive behavioural therapy are the treatments of choice (NICE, 2004). A substantial number of patients continue to be highly symptomatic. Treatments take between 6 months and 2 years while treatment length doubles in the presence of comorbid conditions (Westen & Morrison, 2001). The CST programme is likely to reduce utilization of care. Professionals are needed whenever motivation and self-control are lacking. But, when sufficient motivation and self-control exist, CST may be appropriate in the remittent or chronic phase of the disease. CST may be supplied when patients recognize their vulnerability owing to cognitive styles that are supposed to underlie depression and anxiety. While baseline patient characteristics were not predictive for adherence nor for treatment outcome, selection of participants for CST, and presumably for self-help in general, may be determined by motivation. We would recommend the consideration of the incorporation of self-help in all phases of a stepped care treatment model.

Implications for research

Comparison of the CST programme with cognitive behavioural therapy and interpersonal therapy must be carried out. It might be worthwhile developing a computer-delivered version of CST in order further to reduce therapist time. While treatment of mild cases may prevent a substantial proportion from becoming more severely ill in the future (Kessler *et al*. 2003), a controlled trial with long-term follow-up is needed to assess the preventative and cost-effective potential of the CST programme in treating first-episode non-psychotic depression and anxiety disorders.

Personality disorders are known to predict poor outcomes in depressive disorders (Shea *et al*. 1990; Tyrer *et al*. 1993). Personality factors and cognitive styles are aspects that should be taken into account. A follow-up duration of two years or more would be preferable because both personality and depressive disorders require long-term treatment. Results must be evaluated with blinded observer-rated measures when self-report measures are used.

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DECLARATION OF INTEREST

None.

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