British Journal of Psychiatry (1995), **166**, 444–450

Review Article

Cognitive Therapy with Obsessive–Compulsive Disorder

IAN A. JAMES and IVY-MARIE BLACKBURN

Background. People with obsessive–compulsive disorders (OCD) are widely treated with a combination of medication and behavioural techniques. The success rate is 50–85%, but both relapse and drop-out rates appear high. The use of cognitive therapy (CT) for the treatment of OCD has been suggested. The empirical evidence supporting the use of CT for OCD is examined.

Method. A manual and computer (Medline) literature search was performed.

Results. Fifteen empirical studies were found: ten non-controlled, and five controlled.

Conclusions. There are few controlled CT studies, and these show little evidence of improvement when CT is added to existing therapeutic techniques.

The efficacy of cognitive therapy (CT) in the treatment of depression, and, to a lesser extent of general anxiety and panic disorders, is well supported by several outcome studies. There is, however, a risk of overgeneralising from the successful application of therapeutic methods in some disorders to other disparate areas when there is as yet no evidence of proven efficacy, and it is timely to assess whether the empirical evidence to date supports the application of CT methods to obssessive–compulsive disorder (OCD).

It is generally agreed that until recently, the two most widely accepted treatments for OCD have been pharmacotherapy (e.g. clomipramine) and behavioural techniques such as modelling, exposure and response prevention. Medication has proved useful in alleviating both obsessive–compulsive (OC) symptoms (50–79%) and secondary symptoms such as anxiety and depression (Baldwin *et al*, 1991). Behavioural interventions have attained a success rate of 60–85% (Rachman & Hodgson, 1980).

There has been some controversy as to the relative effect of these two treatments. It has been suggested that antidepressant medication, in particular clomipramine, may be useful only when depression is significantly present and that its anti-obsessional effect may be minimal. This was clarified in a Swedish study (Thoren *et al*, 1980) which confirmed the efficacy of clomipramine in obsessional symptoms, although there was a recurrence of symptoms once clomipramine was stopped.

It appears, however, that certain types of patients fail to respond to either of these approaches. Foa *et al* (1983), interested particularly in the failure of behavioural techniques, note that the presence of either severe depression or over-valued ideation (i.e. belief that the obsessive fears are realistic) result in poor prognosis. It is proposed that CT could be effective with such patients (Salkovskis & Warwick, 1985).

After a brief outline of the theoretical research on cognitive factors in OCD, we shall overview CT techniques, and give a detailed description of the studies of CT treatment by cognitive techniques. The 15 clinical studies listed represent the major ones published to date. On this basis we then consider the current status of CT for OCD.

Theoretical work

Beck (1976), in his overview of the emotional disorders from a cognitive therapy viewpoint, does not seem to differentiate clearly between OCD and phobias. He describes the thoughts of OCD patients as being concerned with an action they believe they should have taken or an action they should not have taken. Compulsions are attempts to allay excessive doubts. The anxiety is related not to a particular situation or thought, but to the consequences of being in that situation or of thinking that particular thought. This interesting observation has influenced later researchers in the development of cognitive therapeutic techniques.

Salkovskis (1985) suggests that normal intrusive thoughts may develop into an obsession when the individual perceives the intrusion as potentially harmful and assumes responsibility for causing this harm. The appraisal leads to increased anxiety and the individual may then develop overt or covert neutralising responses to reduce the anxiety. The key element therefore is the negative automatic thoughts which accompany intrusive thoughts.

Reed's (1983) non-empirical paper looks closely at the symptomatology of OCD and argues that it should be thought of as a disorder of cognition rather than a disorder of affect. The obsessional person

shows a dysfunction in the ability to structure their experiential world spontaneously, to deploy inhibitory processes, and to switch from one mental response to another. On this basis, therefore, the general aim of treatment is to achieve a redeployment of attention and the restoration of harmony and balance among cognitive elements in an attempt to develop a more realistic, flexible viewpoint.

Cognitive therapy techniques

Three CT techniques have been described in the literature: (a) challenging obsessional thoughts; (b) thought stopping; and (c) challenging negative automatic thoughts. The first two techniques are aimed at tackling the obsessional thoughts directly, while the third focuses on the negative automatic thoughts accompanying the obsessional thoughts (Salkovskis, 1985).

(a) Challenging obsessional thoughts. A number of techniques have been developed to challenge the obsessional thoughts (i.e. those thoughts concerned with harm, aggression and contamination). Typically, the techniques involve either self-instructional training (SIT) or rational emotive therapy (RET) techniques. SIT (Meichenbaum, 1975) instructs patients to determine how anxious they feel, to observe and record their obsessional thoughts, and to replace their thoughts by productive self-statements. RET (Ellis, 1987) focuses on challenging the belief in the obsessional thoughts through rational disputations.

(b) Thought stopping. This procedure involves disrupting obsessional thought processes by using a cue word, such as 'Stop!'. Typically, patients are taught to use the cue word when they experience stress from the triggering of a rumination. Often the patients are also instructed to imagine a pleasant scene immediately after saying the cue word.

(c) Challenging negative automatic thoughts. Unlike the two former techniques, this form of CT focuses on the negative automatic thoughts (NATs) rather than the obsessional thoughts. Salkovskis & Warwick (1985) used this technique to treat a patient who only experienced low mood when her obsessional thoughts were followed by NATs. Further assessment revealed that the NATs were often precursors to disturbed imagery, e.g.:

Intrusive thought ("I'll be contaminated")	→	NAT ("I'll be rejected")	→	Imagery (Being alone, rotting away)

The CT technique involved challenging the NATs using typical Beckian principles. Salkovskis & Warwick's study is described below.

Empirical studies

Non-controlled studies

Single case studies

As can be seen in Table 1, the majority of the empirical studies have been non-controlled and involved single cases only, and a number of different CT techniques (RET, thought stopping (TS), etc.). All the studies used multimodal treatment packages, which further compounds the problem of determining whether or not the cognitive elements of the treatment were effective.

Ownby (1983) successfully treated a boy suffering from a fear of contamination who had ruminations and rituals, including compulsive handwashing. According to Ownby, the dramatic drop in number of handwashing episodes occurred at the time the TS intervention was begun; unfortunately, owing to the poor design of the study, and the lack of detail in the write-up, the validity of this claim cannot be assessed.

Salkovskis & Warwick (1985) demonstrated how cognitive therapy could be used to assist in the treatment of a depressed over-valuator. The patient was a woman doctor suffering from fears of cancer, contamination, compulsive hand-washing, and secondary depression. Initially, she had responded well to four weeks of behavioural treatment as an in-patient. However, after being sent home she relapsed, undergoing what was termed a 'psychotic depressive episode'. Following this experience, she no longer responded to either medication or behavioural treatment; she had now convinced herself that she was going to catch cancer. At this stage she refused to carry on with behavioural therapy, and so it was decided to use cognitive therapy. As explained above, CT involved the use of Beckian techniques to challenge the NATs. The authors reported that the introduction of CT resulted in an immediate reduction in belief ratings of the intrusive thought (98% down to 40%). There was also a rapid improvement in mood. It is important to note that following CT the patient was once more willing to engage in behaviour therapy. This combined treatment resulted in almost complete recovery, which was maintained at follow-up at six months.

Blue *et al* (1987) report on a patient who suffered from chronic obsessive–compulsive disorder. Before he was admitted to hospital, his ritualistic behaviour

https://doi.org/10.1192/bjp.166.4.444 Published online by Cambridge University Press

Table 1
Summary of non-controlled studies

No.	Study	No. of cases	Age	Type of CT	Additional psychotherapeutic treatments	Outcome
1.	Ownby (1983)	1	13	RET & TS	Self-recording	Effective
2.	Salkovskis & Warwick (1985)	1	25	CR	BT	Effective
3.	Blue *et al* (1987)	1	55	CR & TS	BT, relaxation, education, family therapy, biofeedback	Effective
4.	Ellis (1987)	1	30	RET	BT, education, social skills	Effective
5.	Willmuth (1988)	1	11	CR & TS	BT & insight-oriented approaches	Effective
6.	Moore & Burrows (1991)	1	26	CR, TS & Mental rehearsal	BT, hypnosis & distraction	Effective
7.	Gandev (1992)	1	30	CR & TS	BT, imagery	Effective
8.	Dupont (1992)	1	25	CR & TS	BT	Effective
9.	Gandev (1993)	1	35	CR & TS	Relaxation & imagery	Effective
10.	Enright (1991)	24	$\chi = 32$ range 18–62	CR, RET & TS	BT, assertiveness, anxiety management & education	Not effective

CT = Cognitive therapy.
RET = Rational emotive therapy.
BT = Behavioural therapy.
CR = Cognitive restructuring.
TS = Thought-stopping.

had become so severe that he was immobilised at home; he was unable to leave the bathroom. After 39 days of intensive multimodal treatment he had improved greatly and was discharged; at nine months follow-up he was symptom-free. Blue *et al* claimed that TS was an effective mode of treatment, whereas the cognitive restructuring was not. They felt that the restructuring was ineffective because the patient already realised that his thoughts were irrational, yet he was unable to change them.

Ellis's (1987) patient presented with a number of obsessive–compulsive behaviours, such as continually telephoning her previous therapist, and stopping her car constantly to ensure she hadn't run over anybody; as well as panic, depression and hypochondria. She made good progress with RET, as early as the first month. The improvement spread into many areas of her life, particularly her social life. Ellis provided no information regarding length of treatment or outcome measures, and thus a true assessment of efficacy remains difficult.

Willmuth (1988) treated a boy referred because of ritualised checking, walking, and counting and further anxiety-related behaviours. The cognitive component of the treatment involved challenging the obsessional thoughts. Improvements were observed after the first week of treatment, and by three months all the ritualised behaviour had ceased. At five months the boy was symptom-free and the anxiety-related behaviours had ceased. Treatment gains were maintained at 12 and 18 months.

Moore & Burrow (1991) used a multimodal treatment, including medication over six weekly sessions, with a woman patient who had fears of contracting AIDS. She was symptom-free at three weeks, and at two months.

Gandev (1992) successfully treated a Hindu man, with a pure obsession with an aggressive theme ("I'll kill my children"), over two weeks as an in-patient. The improvement was maintained at follow-up two and five weeks after the initial session. The paper gives an account of the therapy used, but provides no quantitative measures of the improvement.

Dupont (1992) reported on a further single case study concerning a man with multiple fears and checking behaviours. Behavioural techniques were used before cognitive treatment, but it was interesting to note that the improvement occurred after the CT.

Gandev (1993) reported a second single case study, in which he treated a Hindu man with a 20-year history of compulsive water drinking. A multimodal package was used over eight weeks with the man as an in-patient. Improvements were maintained at four months follow-up.

Group treatment

The only non-controlled study to have used group therapy ($n = 24$) was Enright's (1991). Active therapy was conducted with four groups over a period of approximately nine weeks. The results revealed a number of statistically significant improvements in terms of anxiety, mood, and OCD symptoms. However, when assessed using more stringent clinical criteria, only 17% of patients achieved an improvement of at least 1 s.d. from the mean value

Table 2
Summary of controlled studies

No.	Study	No. of cases	Age	Type of CT	Additional psychotherapeutic treatments	Outcome
11.	Jaremko (1982)	1	21	CR	A–B design, CT alternating with BT	Effective
12.	Kearney & Silverman (1990)	1	14	CR	A–B design, CT alternating with BT	Effective
13.	Emmelkamp *et al* (1980)	15	$\chi = 37$ range 22–67	SIT	Combined CT + BT, compared with BT	Efficacy not improved with addition of CT
14.	Emmelkamp *et al* (1988)	18	$\chi = 30$ range 20–56	RET	CT compared directly with BT	CT effective, but no more than BT alone
15.	Emmelkamp & Beens (1991)	21	range 18–65 (mean not stated)	RET	As 14; also combined CT + BT, compared with BT	As 13 and 14

RET = Rational emotive therapy.
BT = Behavioural therapy.
SIT = Self-instructional training.
CR = Cognitive restructuring.
TS = Thought-stopping.

for the group before treatment on the OCD measure. This led the authors to conclude that this group programme had only a slight effect on the specific OCD symptoms.

Controlled studies

These studies are summarised in Table 2. The first two (Jaremko, 1982; Kearney & Silverman, 1990) used single-case A–B design, while the remainder (Emmelkamp *et al*, 1980, 1988, 1991) used group designs.

Single-case studies

Jaremko (1982) performed a single-case controlled study (A, A + B, A, A + B, where A = extinction, and B = cognitive restructuring) with a woman who felt a compulsion to straighten her books for fear of a catastrophe. As part of this treatment, 18 obsessive–compulsive rationalisation scenarios were put on audiotape, and the patient was allowed to listen at her leisure – e.g. "My father will not die if I don't straighten my books". Jaremko concluded that the combined treatment (A + B) was the most efficacious, although it is difficult to see how he could realistically control for the cognitive phase after it had been withdrawn the first time.

Kearney & Silverman (1990) used a rather complex single-case cognitive-behavioural A–B design (where A = extinction, and B = cognitive restructuring) in the treatment of a 14-year-old boy suffering from two OC checking behaviours and depression. The boy was afraid of contracting rabies, and thus would continually check windows for signs of bats, and check his person for bat saliva. Both behaviours were treated with the same A–B design. Progress was quick, both of the checking behaviours having ceased by the fifth week. It was very evident that response prevention in general was more effective with the 'window checking' behaviour, while CT was more effective with the 'saliva checking' behaviour. Importantly, there was evidence that repeated modes (either A–A, or B–B) resulted in poorer performance. Kearney & Silverman suggested that the alternating relationship was better, as there may have been partial extinction in the A–A and B–B phases.

Group treatments

The first study to use a controlled group design was conducted by Emmelkamp *et al* (1980). They wanted to see whether a modification of cognitions could enhance the effectiveness of behavioural treatments. The cognitive component of the treatment consisted of SIT. Eight subjects received exposure treatment alone; seven received exposure plus SIT. Assessments were carried out before and after the tests and at follow-ups 1 and 6 months later. Tests of anxiety, depression and obsessional characteristics were administered. The results revealed that both treatments were roughly comparable, i.e. there was no evidence that self-instructional training enhanced the effectiveness of exposure *in vivo*. It is noteworthy that both treatments resulted in an overall improvement in anxiety, avoidance and obsessional characteristics.

Emmelkamp *et al* (1988) investigated the impact of RET as compared to *in vivo* exposure. Nine subjects received RET, and nine *in vivo* exposure.

https://doi.org/10.1192/bjp.166.4.444 Published online by Cambridge University Press

There were four pre-test sessions to prepare the subjects for treatment, ten treatment sessions, and two follow-up assessments (one month and six months). RET was found to be as effective as exposure *in vivo*, but it failed to improve overall treatment efficacy. More of the patients exposed *in vivo* were judged to be in the 'improved' and 'much improved' conditions, but the differences were not significant. Both of the treatment conditions led to a reduction in social anxiety. However, RET alone resulted in improvements in depression.

In the above study, the patients tended to be young, well-educated, and non-chronic cases. In a replication study in 1991, Emmelkamp *et al* used a more general pool of subjects: ten were in the RET condition, and eleven in an *in vivo* self-exposure condition. This study used an interesting design, which lasted 44 weeks. The relevant treatment phases occurred between weeks one and 17; after which the treatment was tailored to the requirements of the individuals.

Initially, the patients were randomly assigned to either self-exposure or RET. After an initial assessment phase (two sessions), there was a four-week waiting period, followed by another assessment, and then a four-week treatment phase (Comparison 1: RET v. BT). Then there was another assessment, followed by a four-week non-treatment waiting period. At the end of this time another assessment was conducted; then the patients in the exposure condition received another six sessions of exposure, while the patients in the RET condition began to receive exposure in addition (Comparison 2: Exposure v. RET + exposure). A fifth assessment was performed at 17 weeks, followed by a waiting period, and two follow-up treatments at 21 weeks and 44 weeks. Individual treatment was given during the follow-up period. As in the earlier study (Emmelkamp *et al*, 1988), RET was found to be as effective as *in vivo* exposure, but no more so. It was also found that the addition of RET to the exposure condition did not improve efficacy.

Discussion

Cognitive therapy v. behavioural therapy

An initial look at this research might lead one to conclude that CT is an effective form of treatment. Indeed, all the studies revealed positive results, except for Enright's group therapy study, which, when stricter clinical criteria were used, failed to show significant relief of symptoms. Emmelkamp and colleagues found that treatments including cognitive techniques were effective, although no more so than exposure alone or the combination of exposure and RET. Ownby (1983) concluded that when using RET in conjunction with thought-stopping procedures, thought stopping was the effective element.

Salkovskis & Warwick's (1985) work is important as it provides evidence of the utility of cognitive therapy as a precursor to behaviour therapy. It must be noted, however, that their patient had received behaviour therapy alone before the introduction of cognitive therapy. CT appeared to be useful in this case in dealing with a 'resistant' patient suffering from depression and over-valued ideations. Similarly, Morelli (1983) used cognitive therapy successfully as a precursor treatment to ameliorate family stress resulting from the obsessive–compulsive behaviour of a 13-year-old boy. Once the family stress was reduced, the parents, particularly the mother, assisted in the behavioural treatment of the child's disorder. Such results suggest that there is scope for the targeting of cognitive therapeutic approaches to alleviate depression (Beck, 1976), to assist treatment of over-valuators (Salkovskis & Warwick, 1985) and to relieve stress among family members and thus create an atmosphere conducive to improvement.

Several studies have used thought stopping, and some have labelled this technique as cognitive. However, the use of thought stopping as a cognitive treatment is somewhat controversial, firstly because many would argue that it is a behavioural (aversive therapy) method and not a cognitive one, and secondly because its efficacy is questionable. Despite this, all the studies mentioned in this review, excepting Enright's (1991), reported on the efficacy of thought stopping as a treatment when in combination with other techniques.

Quality of studies

The literature reviewed above suggests that it is premature to draw optimistic conclusions regarding the efficacy of cognitive therapy in obsessive–compulsive disorder, because there are so many methodological problems. Firstly, there has been very little empirical research. Only 15 studies have been reported, and only five of these have been controlled studies. There have been 11 single case studies, and of these only two used a controlled design. There has also been one uncontrolled group therapy study (Enright, 1991), and three controlled group studies. The forms of CT used have varied greatly, although four studies used RET and eight used thought-stopping as elements in their treatment packages. (In Tables 1 and 2 the term 'cognitive restructuring' is used as a general descriptor, as many of the researchers failed to specify the form of CT

used.) Thus it is difficult to make any clear statements about the role and function of specific aspects or forms of CT. Moreover, some of the studies employed multimodal treatment methods, so that it is impossible to determine which components of the treatment were responsible for outcome.

Age, demography and diagnoses

Other aspects of the studies make conclusions and generalisations difficult. For example, they tended to deal with younger populations, although clearly this may be a feature of the characteristics of OCD (mean age of onset is quoted as 20 years: Rasmussen & Tsuang, 1986). Three case studies reported on the treatment of children and adolescents, and the subjects in the other case studies were between the age of 21 and 30 years. The mean ages of the group studies also tended to be young, although the ranges were large.

It is worth commenting on the poor amount of demographic and diagnostic information provided in many of the above studies. For example, only six indicated whether or not they had used DSM or ICD diagnostic criteria (nos. 5, 6, 10, 12, 14, 15 in Tables 1 and 2). Three of the studies failed to give information about the time periods involved (4, 8, 12); six failed to indicate whether or not previous therapeutic help had been given for the current OCD episode (1, 5, 7, 11, 12, 13). Five failed to give details of medication and whether or not it was controlled for (1, 5, 8, 11, 12). Three studies failed to indicate whether or not depression was controlled for (1, 7, 11). Four studies failed to indicate the source of referral (6,, 11, 12, 13), and three studies failed to comment on the previous psychiatric history of the subjects (2, 4, 11). Additionally, most of the studies provided no information regarding the specific status of the therapists; the lack of such information means that replication would be difficult. Seven studies (1, 3, 4, 5, 6, 7, 9, 11) used behavioural measures alone as outcome indicators; the rest used behavioural, affective, and standardised measures of severity of illness.

Conclusions

The value of cognitive therapy for obsessive–compulsive disorder still cannot be judged, as the few studies to date have failed to provide conclusive answers owing to inadequacies both in design and in method. Indeed, because many of the case studies have employed multiple forms of treatment, it is difficult to determine which aspects have been effective. The better-quality studies (e.g. Emmelkamp and colleagues) have made important contributions, but have applied very specific techniques that do not allow general conclusions to be drawn regarding the usefulness of cognitive therapy.

To conclude, if this were a court trial of the case of the role of cognitive therapy with respect to obsessive–compulsive disorder, as judges we would feel obliged to return a verdict of 'not proven' owing to the lack of available evidence, and can only anticipate better designed studies in future.

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Ian A. James, PhD, **Ivy-Marie Blackburn**, PhD, Collingwood Clinic, Newcastle upon Tyne

Correspondence: Dr I. A. James, Cognitive Therapy Centre, Collingwood Clinic, Newcastle Mental Health NHS Trust, Gosforth, Newcastle upon Tyne, NE3 3XT, UK

(First received 23 June 1994, final revision 4 August 1994, accepted 12 August 1994)