

Regular Article

Individual versus group cognitive behavioral treatment for obsessive–compulsive disorder: Follow up

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Aim: To compare the effectiveness of two forms of cognitive behavioral treatment (CBT; group and individual) in a sample of patients with obsessive–compulsive disorder (OCD) at 6-month and 12-month follow up.

Method: Thirty-eight subjects meeting DSM-IV-TR OCD criteria completed 20 sessions of individual and group CBT. They were assessed using the Yale–Brown Obsessive–Compulsive Scale and the Hamilton Anxiety and Depression Scales at baseline, after treatment and at 6-month and 12-month follow up.

Results: The clinical improvement obtained at the end of the treatment was maintained at 6-month and

12-month follow up. The clinical outcome of the individual treatment (IT) and the group treatment (GT) was the same. The dropout rates were significantly higher in women than in men, but were similar for IT and GT.

Conclusions: CBT was effective in a sample of OCD patients. Individual and group CBT had similar results at 6-month and 12-month follow up. The clinical implications of these findings are discussed.

Key words: cognitive behavioral treatment, efficacy, follow up, group, obsessive–compulsive disorder.

OBSESSIVE–COMPULSIVE DISORDER (OCD) is the most severe anxiety disorder described to date. Cognitive behavioral treatment (CBT), based largely on exposure and response prevention (ERP), has become established as the treatment of choice for OCD. CBT is used alone or, especially in more severe cases, in combination with psychopharmacological treatment.¹ The National Institute for Health and Clinical Excellence (NICE) Clinical Guideline suggests that in the initial treatment of adults with OCD, low-intensity psychological treatments (including ERP; up to 10 therapist hours per patient) should be

offered if the patient's degree of functional impairment is mild and/or the patient expressed a preference for the low-intensity approach. Low-intensity treatments include: brief individual CBT (including ERP) using structured self-help materials, brief individual CBT (including ERP) by telephone, and group CBT (including ERP; the patient may receive >10 h of therapy in this format).² The treatment of choice for OCD is individual CBT. To date, evidence of the efficacy of group CBT has been lacking. Cognitive behavioral group treatment (GT) is a cost-effective treatment alternative for OCD that has additional benefits.^{3–5} A few controlled studies have analyzed the efficacy of CBT for OCD.^{6–8} Some studies analyzing the effectiveness of GT for OCD described the results at follow up. Studies of GT observed a reduction in the obsessive–compulsive symptoms at 3-month,^{3,9} 6-month³ and 12-month follow up.^{3,10} Other studies compared the effectiveness of GT and

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individual treatment (IT) at follow up. IT seemed to be more effective than GT at the end of the treatment period and at 6-month follow up in OCD patients without compulsions.¹ One study examined the effects of CBT compared with traditional behavior therapy ERP.¹¹ Both treatments were superior to the control condition in symptom reduction, with ERP being marginally more effective than CBT by end of treatment and again at 3-month follow up.

The first controlled trial was conducted by Fals-Stewart *et al.*⁷ They noted that patients in IT initially had faster rates of improvement than those in GT, but that there were no differences in the results at post-treatment assessment and at follow up. In that study there was a slight increase in the obsessive-compulsive symptoms at 6-month follow up. A recent study observed that there was a more rapid response to IT than to GT, but the number of patients who had recovered at follow up was the same for both treatments.⁶ The previous controlled pilot study compared IT, GT and a waiting list control (WLC). Both IT and GT produced statistically significant reductions in anxiety and depressive symptoms compared to the WLC. Patients in IT achieved a statistically significant reduction in OCD symptoms compared with patients in GT and WLC.⁸

Regarding the dropout rates in other studies, Anderson and Rees did not find differences between IT and GT.⁶ No other studies analyzed the risk of dropout at follow up.

Few studies have evaluated the possible association of OCD symptom dimensions and treatment response. In our previous study, patients with order and symmetry obsessions experienced fewer changes in anxiety symptoms after treatment.⁸

In a recent study of 104 patients with OCD, the authors evaluated whether certain OCD symptom dimensions were associated with the CBT outcome. They found that patients with hoarding OCD respond poorly to CBT.¹² In a previous study, however, on the effect of CBT on obsessive-compulsive hoarding, the patients presented significantly higher Hamilton Rating Scale for Anxiety (HAM-A) scores than non-hoarders both before and after treatment.¹³

In other studies of OCD, checking compulsions were reported to be predictors of a poor CBT outcome.¹⁴ Most studies, however, found no differences in the CBT outcome between patients with washing and checking compulsions.^{15–17}

As a result of these discrepancies in the literature, the present study had the following objectives: to

assess the effectiveness of two forms of cognitive behavioral intervention (individual and group) in OCD; to analyze the predictors of dropout from both forms of treatment; and to analyze the predictors of changes in obsessive-compulsive, anxiety and depressive symptoms at 6-month and 12-month follow up. We hypothesized that GT and IT would be equally effective. Second, we hypothesized that GT and IT would have the same dropout rates. Third, we hypothesized that patients with OCD ordering and symmetry would have fewer changes in anxiety symptoms at follow up. In addition, there would be less change in the symptoms of patients with hoarding obsessions at follow up.

The study analyzed whether the reduction in obsessive-compulsive, anxiety and depressive symptoms obtained after 20 sessions of IT and GT would be maintained for a 6-month and 1-year period. The efficacy of IT and GT was also analyzed.

METHODS

Participants

The initial sample consisted of 57 patients with OCD, according to DSM-IV diagnostic criteria.¹⁸ The patients were diagnosed by two experienced psychiatrists (PA, JMM) who administered the Structured Clinical Interview for DSM-IV Axis I Disorder (SCID-I)¹⁹ and Structured Clinical Interview for DSM-IV Axis II Personality Disorders²⁰ in the first interview. Of these patients, 5.7% ($n = 2$) left the study after the initial evaluation stage and 12.3% ($n = 7$) withdrew during treatment. The sample was divided into three experimental conditions: 19 patients received IT; 19 received GT (divided into two groups: one of nine and the other of 10); and 19 patients were on the waiting list. The WLC was not analyzed for ethical reasons. The three groups also received psychopharmacological treatment. Of the 28 patients who completed the 20-session treatment, 20 were evaluated during the follow-up period. Eight patients dropped out during the follow up of 6 and 12 months.

The sociodemographic characteristics of the sample are listed in Table 1.

Instruments

Yale-Brown Obsessive-Compulsive Scale

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), the most widely used scale for evaluation

Table 1. Subject characteristics

		Total (n = 38) (%)	Completers (n = 20) [†] (%)	Dropouts: Treatment (n = 10) (%)	Dropouts: Follow up (n = 8) (%)	P [‡]	P [§]
Gender	Male	63.2	85.0	50.0	25.0	0.078	0.005
Marital status	Unmarried couple	7.89	10.0	0.00	12.5	0.575	0.206
	Divorced/separated	2.63	0.00	0.00	12.5		
Studies	Married	34.2	30.0	30.0	50.0	0.666	0.418
	Single	55.3	60.0	70.0	25.0		
	Primary	15.8	10.0	20.0	25.0		
	Secondary	65.8	75.0	60.0	50.0		
Socioeconomic status	University	18.4	15.0	20.0	25.0	0.169	0.250
	Medium–low	36.8	25.0	60.0	37.5		
	Medium	50.0	60.0	30.0	50.0		
	Medium–high	10.5	15.0	10.0	0.00		
Employment	High	2.63	0.00	0.00	12.5	1.000	0.555
	Unemployed	13.2	10.0	10.0	25.0		
Age (years)	Mean ± SD	31.1 ± 8.7	31.0 ± 7.9	28.1 ± 5.2	35.1 ± 13	0.312	0.300

[†]Patients who completed treatment and follow up; [‡]completers vs dropouts during the treatment; [§]completers vs dropouts during the follow up.

of obsessive–compulsive symptoms, assesses the presence of specific obsessions and compulsions and their severity.^{21,22} It consists of 10 Likert-type items (0, none; to 4, extreme). Five items evaluate obsessions and five other items evaluate compulsions, covering the following aspects: distress, frequency, interference in everyday life, resistance to symptoms and control over symptoms. The Spanish version was validated by Nicolini *et al.*²³ Inter-rater reliability was high ($r = 0.88$; $P < 0.001$). Cronbach's alpha coefficient for each rater was in the range 0.84–0.87, with mean of 0.85.

Hamilton Rating Scale for Depression

The Hamilton Rating Scale for Depression (HAM-D) is a 21-item questionnaire that assesses cognitive and vegetative symptoms of depression.²⁴ The total score is obtained by adding up the scores on the 21 items. Ramos-Brieva and Cordero Villafáfila were the authors of the Spanish validation version.²⁵ The instruments had good concurrent validity ($r = 0.82$) and content validity (average frequency, 62%). Inter-rater reliability ($r = 0.99$) and split-half reliability ($r = 0.89$) were high.

Hamilton Rating Scale for Anxiety

This scale consists of categories through which anxiety, tension, neurovegetative and somatic symp-

toms are assessed.²⁶ The scale consists of 14 items, each scored 0–4. This questionnaire has been adapted to the Spanish population and has been found to have high internal consistency (Cronbach's $\alpha = 0.75$).²⁷

Design and procedure

The study was carried out using a single-blind, parallel-group design. Subjects were randomly allocated to individual, group or control conditions using a list of random numbers. The random allocation was done by a researcher who was not involved in the clinical trial.

Data were compiled using a prospective cohort follow-up design. Experienced psychologists and psychiatrists completed the anamneses. The patients were evaluated by the same evaluator during the treatment and in the follow-up period. All participants were attending the psychiatric outpatient service at the University Hospital of Bellvitge, Barcelona. The patients were referred consecutively to the Psychology Unit, of the same hospital, to initiate CBT after 12 weeks of pharmacological treatment. Therefore, all OCD patients included in the present study were medicated. Given that most patients seeking treatment in the Unit have severe OCD symptoms, pharmacological treatment is needed in almost

all cases. During the treatment and follow up there were no changes in medication.

Treatment

All patients underwent a first semi-structured interview with a trained clinical psychologist (NJ). The two treatment conditions were applied and evaluated by the same therapist, a Master's level psychologist with 4 years' experience in OCD. In the two groups there was a co-therapist. After the first interview all patients completed the psychological protocol, which consisted of psychometric tests of obsessive-compulsive, anxiety and depressive symptoms. HAM-A, HAM-D and the Y-BOCS were administered by a trained psychologist. The patients were then told the results of the questionnaires and the type of treatment they would receive. Informed consent was obtained from all subjects, and the study was approved by the Hospital ethics committee. The protocol was administered in three 1-h sessions.

Both treatment programs consisted of 20 weekly sessions, with follow up at 1 month, 3 months, 6 months and 1 year (we analyzed only 6- and 12-month follow up). The individual sessions lasted 45 min and the group sessions, 90 min. The treatment sessions were based on a manual.²⁸ Psychoeducation, ERP (*in vivo* and in imagination),^{29,30} cognitive techniques^{30–32} and relapse prevention were used. The treatment protocol included specific homework exercises attached to each component of the treatment. The therapist monitored these activities. For the follow up, the therapist focused on patients' difficulties and doubts. The patient could ask to be accompanied in the IT. In the GT one session was held in the presence of a family member or friend. All patients were evaluated using the aforementioned instruments at the start and end of treatment and at 6–12-month follow up. Additional treatment was offered to the patients who relapsed at the end of the study.

The present paper is part of an ongoing study focused on follow up and the efficacy of CBT for OCD patients. This study started in 2004 and we are still collecting data. Therefore, the present results are preliminary and must be interpreted with caution.

Statistical analysis

The analysis was carried out using SPSS 14.0 for Windows (SPSS, Chicago, IL, USA). First, the risk of dropout during treatment and follow up was esti-

mated for each therapy and compared using Pearson's χ^2 test or exact methods when the samples were small. The risk was computed for all the patients included in the study ($n = 38$) and for those who completed the treatment ($n = 28$).

Next, an analysis of variance with repeated measures (treatment \times time) was used to compare the HAM-A, HAM-D and Y-BOCS scores during treatment and at follow up. The general linear model SPSS procedure was used. The within-subjects factor was defined by the four clinical measures available for each subject (before, after, 6 months and 12 months). The treatment (individual vs group) was defined as the between-subjects factor. Polynomial contrasts were estimated to evaluate the linear, quadratic and cubic trends.

Finally, linear regression models were used to assess which sociodemographic and clinical variables were predictive of the changes in HAM-A, HAM-D and Y-BOCS scores during follow up. The changes were measured as the differences between baseline values and scores at 6-month and 12-month follow up. All models were obtained with the SPSS-FSTEP procedure, controlling (adjusting) for the treatment condition (IT/GT) and baseline scores.

RESULTS

Clinical information is given in Table 2. There were no differences between the two types of treatment.

An analysis of variance found no statistically significant differences between the treatment groups' scores on the HAM-A, HAM-D and on the Y-BOCS at the start of the study. This confirmed that the groups created by random allocation were homogeneous for these psychological variables. The distribution of patients receiving different drug treatments was not significant.

At follow up the patients allocated to the two treatments had different mean scores with respect to post-treatment assessment (Table 3). These statistically significant differences were observed on the HAM-D scale and Total Y-BOCS at 12-month follow up. Also, were observed trends to statistical differences on the Y-BOCS obsessions scale and Y-BOCS compulsive scale at 12-month follow up and total Y-BOCS at 6-month follow up. Post-hoc comparisons indicated that there were no differences between the two treatments in terms of depressive, anxiety and obsessive-compulsive symptoms at 6-month and 12-month follow up.

Table 2. Clinical characteristics at intake by experimental condition

	Total (<i>n</i> = 38)	Individual treatment (<i>n</i> = 19)	Group treatment (<i>n</i> = 19)	<i>P</i>
Age at onset (years) (mean ± SD)	18.7 ± 7.0	20.3 ± 7.65	17.2 ± 6.01	0.166
Age at first consultation (years) (mean ± SD)	23.5 ± 6.3	24.2 ± 6.68	22.9 ± 5.99	0.543
No. hospital admissions (mean ± SD)	0.26 ± 0.6	0.32 ± 0.6	0.21 ± 0.5	0.565
Obsessions (%)				
• Aggressive	44.7	47.4	42.1	0.744
• Contamination–cleaning	47.4	63.2	31.6	0.051
• Doubting–checking	50.0	57.9	42.1	0.330
• Sexual	18.5	15.8	21.1	0.890
• Collecting	21.1	26.3	15.8	0.426
• Religious	2.63	0.00	5.26	0.311
• Ordering–symmetry	26.3	21.1	31.6	0.461
• Somatic	4.20	0.00	10.6	0.348
Compulsions of repetition	21.1	5.26	36.8	0.042
Slowness	18.4	15.8	21.1	0.676

The analysis of variance found no statistically significant differences in sociodemographic characteristics among completers, patients who dropped out during treatment and those who dropped out during follow up (at 6 and 12 months; Table 1). There was only one exception: more women than men dropped out during follow up ($P = 0.005$).

Table 4 presents the analysis of the risk of dropping out at 6-month and 12-month follow up. The risk of dropping out was statistically similar in IT and GT.

We observed a trend ($P = 0.051$), however, at 1-year follow up in patients who had received IT when compared to all the patients who had started the treatment.

Analysis of variance indicated no statistical differences between IT and GT on the different scales (HAM-A, HAM-D; Y-BOCS) at 6-month and 12-month follow up. The intra-time factor is statistically significant, which shows that there is a change in the values of the scales at the four times when they

Table 3. Comparison of therapy

	Treatment	Before treatment (Mean ± SD)	After treatment (Mean ± SD)	6-month follow up (Mean ± SD)	12-month follow up (Mean ± SD)
HAM-D	Individual	13 ± 6.6	8.00 ± 4.8	6.9 ± 5.3	6.9 ± 5.8 [†]
	Group	14.0 ± 5.5	9.1 ± 7.1	8.00 ± 5.9	6.5 ± 5.8
HAM-A	Individual	14.0 ± 5.5	5.1 ± 4.1	7.4 ± 4.8	5.6 ± 4.7
	Group	14.0 ± 6.3	6.4 ± 4.7	5.8 ± 4.2	3.9 ± 3.0
Y-BOCS Obsessions	Individual	12.5 ± 3.7	6.1 ± 3.9	5.9 ± 3.4	6.1 ± 3.9 [‡]
	Group	12.4 ± 3.7	9.6 ± 5.2	8.8 ± 5.8	7.3 ± 5.6
Y-BOCS Compulsions	Individual	12.5 ± 3.9	6.6 ± 3.0	6.1 ± 3.6	5.6 ± 4.6 [§]
	Group	12.1 ± 4.1	9.3 ± 5.5	8.1 ± 6.1	6.8 ± 5.9
Y-BOCS Total	Individual	25.2 ± 7.7	12.8 ± 6.2	11.2 ± 7.1 [†]	10.0 ± 7.8 ^{††}
	Group	24.6 ± 7.5	19.3 ± 10.9	16.8 ± 12.2	13.7 ± 11.8

Results for analyses of variance with repeated measures: [†] $F = 5.6$, d.f. = 1, $P = 0.046$; [‡] $F = 3.3$, d.f. = 1, $P = 0.084$; [§] $F = 3.7$, d.f. = 1, $P = 0.070$; ^{††} $F = 3.3$, d.f. = 1, $P = 0.088$; ^{†††} $F = 6.9$, d.f. = 1, $P = 0.018$.

HAM-A, Hamilton Rating Scale for Anxiety; HAM-D, Hamilton Rating Scale for Depression; Y-BOCS, Yale–Brown Obsessive–Compulsive Scale.

Table 4. Risk of drop-out at 6- and 12-month follow up

	Risk of dropout (%)		Risks comparison		
	Individual treatment	Group treatment	χ^2	<i>P</i>	Risk ratio (95%CI)
Total sample (<i>n</i> = 38)					
Treatment	36.8	15.8	2.17	0.140	2.33 (0.71–7.7)
6 months	57.9	31.6	2.66	0.102	1.83 (0.85–3.9)
1 year	63.2	31.6	3.80	0.051	2.00 (0.95–4.2)
Treatment completers (<i>n</i> = 28)					
6 months	33.3	18.7	0.194	0.659	1.78 (0.49–6.5)
1 year	41.7	18.7	0.820	0.365	2.22 (0.66–7.5)

CI, confidence interval.

were completed. The linear factor is statistically significant, which shows that there is a decreasing trend in all scales. Finally, the statistically significant quadratic and cubic contrast shows that the decrease produced is not constant for the four times at which the subjects were evaluated.

With respect to the predictors of change at 6-month follow up, the presence of hoarding obsessions or compulsions was associated with less improvement in depressive (95% confidence interval [CI]: –15.6 to –10.4; *P* = 0.01) and anxiety symptoms (95%CI: –13.3 to –3.23; *P* = 0.006). Patients with checking obsessions and compulsions (95%CI: 0.36–0.94; *P* = 0.002) were associated with more improvement in obsessive–compulsive symptoms. At 12-month follow up, ordering-symmetry obsessions (95%CI: 3.46–10.9; *P* = 0.004) were associated with more improvement in depressive symptoms. Checking obsessions (95%CI: –4.97 to –0.07; *P* = 0.046) were linked to less improvement in depressive symptoms. Slowness (95%CI: –19.6 to –15.4; *P* = 0.001) was associated with less improvement in obsessive–compulsive symptoms. Finally, employment (95%CI: 11.9–15.4; *P* = 0.001) and hoarding obsessions (95%CI: 2.81–7.57; *P* = 0.006) were associated with more improvement in obsessive compulsive symptoms. These models accounted to $R^2 = 0.794$ for $R^2 = 0.108$ of variance in symptoms change.

DISCUSSION

The aim of the present study was to examine the effectiveness at follow up of two types of CBT (GT and IT) in a sample of patients with OCD. There were no significant differences between the recovery of

patients receiving GT and that of patients receiving IT, thus confirming our main hypothesis. The second aim was to compare the dropout rate at follow up for IT and GT. The hypothesis was confirmed because the dropout rate of patients in IT was the same as that of patients in GT. The third aim was to analyze the predictors of change at follow up; one of our hypotheses was confirmed but the other was not.

The present results show that patients in both IT and GT CBT maintained the reduction in anxiety, depressive and obsessive–compulsive symptoms at follow up. In addition, the reduction of symptoms was similar for the two types of treatment at follow up. These results are in agreement with those of Fals-Stewart *et al.*, who obtained a substantial improvement in these symptoms in a similar study comparing IT and GT over 24 sessions and at follow up.⁷ In a recent study Anderson and Rees observed that IT was associated with a more rapid response.⁶ The number of patients, however, who had recovered at follow up was the same for both treatments. In a similar study comparing a GT sample with a waiting-list sample, Braga *et al.* observed an improvement in OCD symptoms. Results were maintained for 1 year.³

The dropout rate was the same for IT and GT. This result is in agreement with a previous study,⁸ but more women than men dropped out during the follow up.

Non-response to treatment is often associated with different factors such as the severity of the symptoms, clinical factors, motivation and the quality of the therapeutic relationship. Therefore it is important to identify variables associated with a poor treatment outcome. Such variables may point to additional interventions that could improve the outcome. As a

result, the present study analyzed predictors of change 6 months and 12 months after the CBT.

At 6-month follow up in both treatment groups, patients with hoarding obsessions experienced fewer changes in anxiety and depressive symptoms than the other patients. This result is in agreement with some studies showing that patients with hoarding obsessions respond poorly to CBT.^{12,13,17} In contrast, at 12-month follow up patients with hoarding obsessions experienced more changes in obsessive-compulsive symptoms than the other patients. These results are not in agreement with the aforementioned studies.

In addition, there were fewer changes in obsessive-compulsive symptoms in patients with slowness than in other patients. Rachman and Hodgson observed that these type of patients do not respond well to CBT.³³

Our third hypothesis was not confirmed. We stated that there would be fewer changes in anxiety symptoms in patients with ordering and symmetry obsessions than in other patients. In the present study there were more changes in depressive symptoms in patients with order and symmetry than in other patients.

Finally, there were more changes in obsessive-compulsive symptoms at 12-month follow up in employed patients than in unemployed patients. Unemployment acted as a predictor of poor treatment outcome, especially for obsessive-compulsive symptoms. In a US sample, Karno and Golding, and Karno *et al.* found no relationship between OCD and current unemployment, but OCD was more common among 'unemployed' individuals.^{34,35}

Limitations of this study include (a) the small sample size, (b) the drop-out rate and (c) the exclusion of personality disorders. This fact may affect the generalizable of results. We hope to increase this sample in future studies.

To conclude, the present study suggests that both GT and IT CBT are effective for OCD patients. Treatment results were maintained in the long term. Future research should focus on the follow-up results of these types of treatments. In addition, the present study suggests that some predictors of change in anxiety, depressive and obsession-compulsion symptoms could interfere with the results. Therefore, further studies should identify specific treatment techniques for these patients. These results are preliminary. We hope to confirm them in future studies.

The present study adds support to previous studies that suggest that group CBT is effective for OCD in the long term. More randomized studies are required to compare IT and GT. We believe that the present results are promising and shed light on the still confusing field of OCD treatment. Further studies with larger samples and follow-up data are also required.

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