Research Article

GROUP COGNITIVE AND BEHAVIORAL TREATMENT FOR COMPULSIVE HOARDING: A PRELIMINARY TRIAL

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Background: *Time-limited group cognitive behavioral treatments (GCBT) for obsessive–compulsive disorder have demonstrated improvement in target symptoms. One small sample study of GCBT specifically for hoarding problems also showed benefit. This study examines the efficacy of a specialized GCBT for compulsive hoarding on a larger sample.* **Methods:** *Thirty-two clients diagnosed with hoarding participated in five groups. Four groups met once weekly for 2 hour over 16 weeks (n = 27) and one group met for 20 weeks (n = 5). All participants had two individual 90-min home sessions. Self-report assessments were completed at baseline, mid-treatment, and post-treatment about hoarding behavior and related symptoms (e.g., depression). The sample was predominantly female, White, highly educated, unemployed, and not partnered/married; mean age was 53. A majority was diagnosed with major depressive disorder and obsessive–compulsive personality disorder.* **Results:** *Participants showed significant improvement from pre- to post-treatment on the Saving Inventory Revised, Saving Cognitions Inventory, Clutter Image Rating, and Clinical Global Severity. The most recent group (n = 8) that used a more formalized treatment and research protocol improved significantly more than did earlier members.* **Conclusion:** *This study demonstrates the feasibility and modest success of GCBT methods in improving hoarding symptoms. Group treatment may be especially valuable because of its cost-effectiveness, greater client access to trained clinicians, and reduction in social isolation and stigma linked to this problem. Further research is needed to improve the efficacy of GCBT methods for hoarding and to examine durability of change, predictors of outcomes, and processes that influence change. Depression and Anxiety 26:634–640, 2009.* © *2009 Wiley-Liss, Inc.*

Key words: *hoarding; group; cognitive and behavioral treatment; obsessive compulsive disordes; efficacy*

INTRODUCTION

Hoarding is a serious psychiatric problem that can be life threatening to the individual as well as to the surrounding community, posing a profound public health problem in severe cases.[1,2] Hoarding is characterized by excessive clutter, difficulty discarding, excessive acquiring, significant functional impairment and distress (to self or others).[3] Compulsive hoarding occurs in approximately 30% of patients with obsessive compulsive disorder (OCD)[3–5]; 5% of those with

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OCD have severe hoarding symptoms.[6] Thus, though hoarding is considered a subtype of OCD, it is associated with a number of mental disorders. A recent community-based survey suggests that hoarding may be a problem for 5% of the US population.[7]

Research suggests that hoarding is difficult to treat and is associated with poor outcomes following medication and behavior therapy that have proved effective for nonhoarding OCD symptoms.[8–10] The complex and impairing nature of hoarding and poor treatment response suggests a need for innovative psychosocial treatment methodologies. A recent study of individual cognitive behavioral treatment (CBT) designed for compulsive hoarding showed promising results in an open trial[11] and a waitlist controlled trial (Steketee et al., 2009 in preparation). Individual CBT for hoarding requires more sessions and home visits than treatments for OCD (26 versus 12–16), prompting concerns about the high cost of this treatment.[11–12] Additionally, motivation is often problematic for this population, even among treatment-seeking clients.[13]

A hybrid treatment model using group office sessions and individual home visits may have potential benefit with regard to cost-effectiveness and enhanced motivation. Group treatment may be an especially useful strategy given its potential to decrease social isolation and increase motivation, both substantial problems among those with hoarding (see[14–16]). Studies of the effectiveness of relatively brief group CBT for OCD have demonstrated significant improvement in symptoms with efficacy comparable to individual treatment (e.g.,[17–19]). Group treatment has also proved effective for disorders that are often co-morbid with compulsive hoarding, such as depression and social anxiety (e.g.,[20,21]). To date, only one study with a small sample of six participants has examined group treatment for hoarding.[22] Positive effects were observed after 15 sessions of treatment delivered over 20 weeks; continuing clients benefitted most although none were recovered.

This study provides the first exploration of the effects of a group treatment modality for clients with compulsive hoarding problems using manualized individual CBT methods by Steketee and Frost[14] adapted for use with groups. We examined the efficacy of this group CBT (GCBT) in a multiple cohort pretest–posttest design and sought to determine comparability of benefits to those achieved by individual CBT. This study is a next step in the development and testing of group interventions for hoarding.

METHOD

PARTICIPANTS

Criteria for inclusion in the study included age 18 or older and a primary diagnosis of a compulsive hoarding problem according to the Anxiety Disorders Interview Schedule (ADIS)[23] in which hoarding symptoms were coded in the OCD section. Participants were required to receive a rating of 4 (moderate) or greater on each of the first three items (i.e., acquiring, discarding, clutter) of the 5-item Hoarding Rating Scale[24] (items were scored from 0 "no difficulty" to 8 "extreme difficulty"). Use of psychotropic medications was permitted with a stable regimen for at least 2 months, and the prescribing physician's and patient's belief that medications were likely to remain stable for at least 6 more months.

Participants were excluded from the study if there was evidence of organicity, psychosis, current bipolar symptoms, serious cognitive impairment, substance use disorders within the past 6 months, or if hoarding symptoms were determined as resulting solely from other OCD symptoms such as contamination fears and/or checking rituals. Additionally, participants were excluded if they were deemed inappropriate for group treatment because of severe interpersonal difficulties or if they were in need of case management services or a higher level of treatment. In such cases, referrals for individual treatment and appropriate services were provided. Referrals to the group treatment came from mental health outpatient clinics, OCD support groups, or self-referrals from among those participating in a psychopathology study of hoarding.

Among 82 individuals screened for various studies, 40 indicated an interest in treatment and 32 entered the groups. Of the eight individuals who did not enter, three were not stable on their medication, two required individual treatment because of severe comorbid mental health and neurological problems and physical disabilities, two did not respond to phone calls inviting them to participate, and one had scheduling conflicts and remained on the waitlist for future groups. The demographics of the sample of group participants were mean age of 53 years (range = 38–65), 65.6% female, 90.6% White, 37.5% were married/partnered, 28.1% had never married, and the remainder (34.4%) was divorced, separated, or widowed. The average amount of education was 15.7 years. Most were unemployed (68.8%) and had dependents (63.5%). As data collection procedures were not standardized until the most recent group ($n = 8$), some data are missing on several variables.

Table 1 presents the most common comorbid Axis I and II disorders among this sample. More than three-quarters of the sample had major depression and about a third had generalized anxiety disorder and social phobia, with two-thirds suffering from at least one other anxiety disorder. More than half the sample met criteria for obsessive compulsive personality disorder; no other personality

TABLE 1. Comorbid conditions among the group treatment sample

	%	*N*
Axis I clinical disorder		
Major depressive disorder	78	25
Generalized anxiety disorder	31.3	10
Social phobia	28.1	9
Specific phobia	21.9	7
Post traumatic stress disorder	18.8	6
Obsessive compulsive disorder	15.6	5
Any anxiety disorder	65.6	21
Attention deficit disorder	12.5	4
Impulse control disorder	9.4	3
None	6.3	2
Axis II personality disorders and mental retardation		
Obsessive compulsive personality disorder	53.1	17
Borderline personality disorder	12.5	4
Avoidant personality disorder	12.5	4
Paranoid personality disorder	6.3	2
Histrionic personality disorder	3.1	1
Antisocial personality disorder	3.1	1
None	34.4	11

disorder was well represented and one-third of the sample had no Axis II disorder.

MEASURES

The ADIS-IV[23] is a semi-structured interview to diagnose anxiety, mood, somatoform, and substance use disorders and to screen for the presence of other conditions (e.g., psychosis). The ADIS-IV-L has shown good to excellent reliability for the majority of anxiety and mood disorders (e.g., $\kappa = .85$ for principal OCD diagnoses)[25] and includes dimensional ratings (0–8 scales) for each major diagnostic category. A dimensional Hoarding Rating Scale was added for this study to enable interviewers to diagnose hoarding as a primary condition. Five hoarding symptoms (i.e., clutter, acquisition, difficulty discarding, distress, and impairment) were rated from 0 (no difficulty) to 8 (extreme difficulty) (Tolin et al., 2008, submitted).

The Structured Clinical Interview for DSM—Axis II Personality Disorders (SCID-II)[26] is a structured clinical interview used to diagnose personality disorders and features. Initially, a SCID-II Questionnaire was administered to screen for the various personality disorders; each screen item is associated with a section of the interview. Clinicians then asked the relevant SCID-II interview questions within a section for any personality disorder section for which patients endorsed sufficient criteria minus one. Several studies have documented acceptable inter–rater reliability[27,28] although test-retest reliability is variable by specific personality disorder and study.[29,30]

The main outcome measure for this study, the Saving Inventory-Revised (SI-R)[31] is a 23-item self-report questionnaire with three factor analytically defined subscales for difficulty discarding, excessive clutter, and compulsive acquisition. Items are scored from 0 (no problem) to 4 (very severe, extreme). It showed good internal consistency and test–retest reliability, as well as known group validity and concurrent and divergent validity in clinical and non-clinical samples. Higher scores indicate more severe hoarding symptoms. Internal consistency in the present sample was high ($\alpha = .92$).

The Clutter Image Rating (CIR)[32] assessed clutter severity through three sets of photographs of a kitchen, living room, and bedroom, each set with pictorial levels of clutter scaled from 1 to 9. The therapist and participants separately selected the photograph that most closely resembled each of the three rooms in the home. A mean composite score is calculated across the three rooms (range 1–9). Internal consistency ($\alpha = .84$), test–retest reliability ($r = .82$), and inter-rater reliability ($r = .94$) were high, as were correlations with other validated hoarding measures.[32] The CIR correlated more strongly with measures of clutter than with other hoarding and psychopathology scales. Internal consistency in the present sample was very good ($\alpha = .90$).

The Saving Cognitions Inventory (SCI)[15] is a 24-item self-report questionnaire scored 1–7 per item (higher scores indicate more hoarding symptoms) that assesses beliefs and attitudes experienced when trying to discard items. Four factor analytically derived subscales (emotional attachment, concerns about memory, need for control, and responsibility for possessions) showed good internal consistency, known groups validity, convergent and discriminant validity, and predicted hoarding severity after controlling for age, mood, and OCD symptoms. Internal consistency in the present sample was high ($\alpha = .90$).

The Clinical Global Impression (Severity) Scale (CGI-S)[33] is a widely used, assessor and/or self-rated, single-item instrument measuring impairment and distress because of hoarding and related problems (e.g., anxiety, social isolation, depression). Scores ranged from 1 (normal) to 7 (extreme). In this study, group participants rated their own distress and impairment. Good correspondence between patients' and assessors' ratings was demonstrated by Hannan and Tolin.[34]

The Beck Depression Inventory-II (BDI-II,[35]) is a 21-item measure of the intensity of self-reported depressive symptoms. Reliability and validity are well established. Internal consistency in the present sample was high ($\alpha = .92$).

PROCEDURES

The ADIS was used to establish the presence of primary compulsive hoarding symptoms, and comorbid Axis I diagnoses. The SCID-II provided diagnoses of Axis II conditions. These measures were administered by a trained masters level clinical psychologist or social worker. Group participants completed self-assessments of their hoarding symptoms (SI-R, CIR, SCI), depression (BDI-II), and symptom severity (CGI-S) at baseline, mid-treatment approximately 6–10 weeks later depending on the group length, and at post treatment (16–20 weeks after initial assessment depending on the duration of the group).

Thirty-two patients participated in five CBT hoarding treatment groups; each group contained five to eight members. The groups met once weekly at the university in the evening for 2 hour over 16 weeks for four groups ($n = 27$) and 20 weeks for one group ($n = 5$). The average number of sessions across all five groups was 16.6 sessions. All group members also received two 90-min individual home sessions scheduled after approximately 3 and 12 weeks.

Group therapists were clinical psychology and social work masters and doctoral students. Using a co-therapy model, groups were led by one clinician who was experienced in treating hoarding and a second who was in training. Group leaders received weekly supervision from experienced doctoral level licensed clinicians (JM and GS). Treatment was based on Steketee and Frost's[14] manualized individual cognitive and behavioral therapy program for compulsive hoarding adapted for delivery in groups. Group sessions focused on (1) education about hoarding and the CBT model for understanding hoarding symptoms; (2) cognitive strategies to reduce hoarding beliefs (e.g., thinking errors, downward arrow, taking another perspective); (3) understanding emotions and emotional attachment to possessions; (4) motivational enhancement strategies; (5) organizing and decision making about clutter; (6) using behavioral reinforcement, replacement of acquiring with more adaptive patterns, identifying barriers to progress; (7) exposure to sorting and discarding; (8) reducing excessive acquisition; (9) discussion of family involvement and/or coaches; (10) coping with improvement, maintaining gains and preventing relapse;and (11) ending group treatment.

The most recent 16-week group ($n = 8$) followed more formalized research procedures that included a more thorough group treatment screening, use of a more detailed and structured CBT manual for group treatment, and a published CBT workbook,[14,36] as well as a more efficient data collection process in which surveys were administered by telephone or in-person to reduce missing data.

This study received IRB approval at Boston University. All group members signed a research consent form and confidentiality agreement.

RESULTS

Table 2 presents mean outcome scores on hoarding measures for all group participants combined ($N = 32$) and separately for the most recent group ($n = 8$). Pretreatment data were collected for all participants on all measures, but post-treatment ratings were missing for some participants. Paired t-tests for the full sample comparing pretest versus posttest scores

TABLE 2. Baseline and post-treatment scores grouped by all group participants and recent group for the Saving Inventory Revised (SI-R), Saving Cognitions Inventory (SCI), Clutter Image Rating (CIR), Clinical Global Severity (CGS), and Beck Depression Inventory (BDI-II)

	All				Recent			
Variable	Mean	*SD*	Range	*P*	Mean	*SD*	Range	*P*
SI-R (pre)	60.54	13.86	35–84	.001	64.80	14.72	35–77	.042
SI-R (post)	51.90	17.07	24.5–79		50.50	19.71	24.5–73	
SCI (pre)	89.00	20.71	50–144	.076	90.81	23.93	50–131	.047
SCI (post)	80.00	28.06	27–135		76.40	25.38	43–116	
CIR (pre)	4.01	1.69	1–7.33	.006	4.79	1.75	2–7.33	.080
CIR (post)	3.46	1.29	1–6		4.02	1.14	2.67–6.0	
CGS (pre)	5.15	0.78	4–7	.003	5.21	0.91	4–6	.049
CGS (post)	4.39	1.18	2–6		3.79	1.29	2–6	
BDI (pre)	20.98	10.60	1–48	.003	21.31	6.55	10–32.5	.108
BDI (post)	14.50	10.73	1–35		16.06	10.92	6–31.5	

SD, standard deviation.

showed modest and significant reductions in hoarding symptoms (CIR: $t(27) = 2.993$, $P = .006$;SI-R total: $t(23) = 3.755$, $P = .001$;CGS: $t(22) = 3.394$, $P = .003$; SCI: $t(16) = 1.896$, $P = .076$) and depression (BDI: $t(18) = 3.472$, $P = .003$). Participants in the most recent group did not differ from earlier groups on demographic variables or severity of initial symptoms (all Ps > .12). The paired *t*-test comparing pre- and post-test scores for the most recent hoarding group also showed significant and modest reductions on the CIR ($t(7) = 2.040$, $P = .08$), the SI-R total ($t(7) = 2.483$, $P = .042$), the CGS ($t(6) = 2.456$, $P = .049$), and the SCI ($t(7) = 2.408$, $P = .047$, but not the BDI ($t(7) = 1.845$, $P = .108$)).

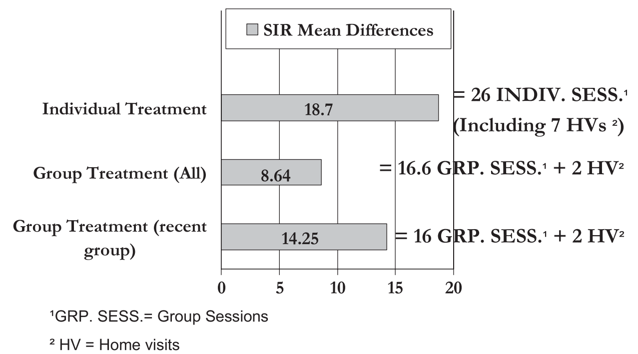

Figure 1. SI-R differences in means (baseline to post) by treatment.

PREDICTORS OF OUTCOME

Correlations were used to identify a limited number of potential predictors of group treatment outcomes in this small sample. Not surprisingly, more severe hoarding symptoms at pre-treatment assessed through the SI-R, CIR, and SCI were associated with higher hoarding scores at post-test on the SI-R and CIR; correlations ranged from .626 to .815, all Ps < .001; the correlation of SI-R pretest and SI-R posttest was high at .753, $P < .001$.

COMPARISON OF GROUP VERSUS INDIVIDUAL CBT OUTCOMES

Figure 1 presents mean reductions in the SI-R for individual CBT according to earlier studies and for the current groups.[1] An open trial of individual CBT treatment for compulsive hoarding including 26 individual sessions plus seven home visits resulted in an 18.7 point reduction in baseline to post-treatment SI-R means (26 sessions conducted over 7–12 months).[11] A second waitlist controlled trial following the same protocol showed an 18.43 point reduction in SIR means from baseline to post-treatment (26 sessions conducted over 49 weeks; range 29–77 weeks).[12] Results from this study indicate that group CBT treatment for hoarding using an average of 16.6 sessions and two home visits resulted in a reduction of 8.6 points in SI-R means. The final hoarding group ($n = 8$) that followed a more formalized clinical research protocol of similar duration (16 group sessions and two home visits) resulted in an SI-R reduction of 14.25 points.

Effect sizes calculated through partial η^2 on the SI-R total for each of these outcomes noted above were as follows: for individual CBT with monthly home visits,[2] $\eta_p^2 = .49$ ($F_{2,18} = 8.79$, $P = .002$); for the full sample group CBT, $\eta_p^2 = .38$ ($F_{1,23} = 14.101$, $P = .001$); and for

[1]We did not include data from an earlier trial of group CBT[37] because this study used older measures and so comparable data are not available.

[2]Effect size calculations from Steketee et al.'s controlled trial are not yet available.

the most recent group, $\eta_p^2 = .47$, ($F_{1,7} = 6.167$, $P = .042$). These reflect large effects, with the most recent group comparing well to individual treatment.

DISCUSSION

Findings from this study indicate that treatment using manualized cognitive and behavioral methods for hoarding[14] can be delivered effectively in a group format. Further, a more formal version of the therapy intended to improve the application of treatment methods and the data collection procedures led to greater benefit. Improvement in symptoms from the final group rivaled those of individual CBT methods that showed good efficacy for hoarding in earlier trials.

The hoarding treatment used here included behavioral (exposure/response prevention) and cognitive elements, both of which have been well studied and considered highly efficacious with clients with anxiety disorders and OCD (e.g.,[37,38]). Several studies of group CBT treatment for OCD also demonstrated improvement in symptoms,[17,19,22,39] although often with somewhat less benefit than individual CBT interventions.

Group treatment was selected to increase access to clinicians with expertise in treatment for compulsive hoarding, improve cost-effectiveness (fewer therapist sessions), and usage of the inherent social networking benefits of group to improve motivation to engage in therapy. This latter aspect is important for hoarding clients, in particular, because of the social isolation commonly found among this population and acute difficulty with motivation (see[5,14,40]). Access to CBT therapists trained in treating hoarding is extremely limited at this time. Furthermore, training clinicians in new empirically supported methodologies often takes many years, during which treatment is not accessible to most sufferers. Whether group treatment proves more cost-effective will require further research examining long-term outcomes and actual costs of therapy and collateral services.

Group treatment for hoarding in this project was not without challenges. These included unexpected absences and late arrivals to group sessions, more than expected from clients with other symptoms, perhaps reflecting greater ambivalence about treatment and/or reduced awareness of the severity of their problem. On the research front, data collection was considerably more difficult than usual as clients who took questionnaires home often lost them, and many reported agonizing over their decisions about answers to the questions. This may reflect significant decision-making difficulties that appear to be central features associated with hoarding behavior, especially difficulty discarding.

Group members were generally very supportive of one another during group sessions, but the limited social skills evident for some individuals who hoard make it important to screen carefully to ensure that group members are able to engage in the group experience effectively. Indeed, some co-morbid conditions such as paranoid traits may contra-indicate group treatment. Co-morbid mental disorders are typical among treatment-seeking hoarding clients (e.g.,[11]) and pose some problems for group process as participants often want to discuss other difficulties reflective of that comorbidity. To manage this problem, clinicians may wish to consider requesting that clients with significant mental health diagnoses receive concurrent treatment from another clinician or social service agency, if available, so group therapists can focus mainly on hoarding problems.

Additionally, our group intervention included limited home visits that worked well, but clients and therapists alike agreed that more home sessions would have been advantageous. Perhaps these could be done using students and/or paraprofessionals.

Finally, motivation remained a significant concern for this sample, requiring the use of motivational interviewing techniques during sessions and individual calls from clients to the therapist outside of group. The group format may enhance motivation for working on hoarding through mutual aid, cohesion, and social contact (e.g., being inspired to attend sessions and work on hoarding by seeing others' progress and working collaboratively with others). Unfortunately, motivation can also be undermined by these processes (e.g., becoming discouraged when comparing oneself to group members who are making greater improvements; spending more time and energy coaching others as a way of avoiding one's own problems). (Sorrentino et al., submitted.) Future research is needed to address motivation problems among this population.

For this study, early outcome assessments were not conducted by independent research interviewers and this led to significant missing data. We recommend that systematic independent data collection through telephone be used at the pre-treatment and subsequent assessments to reduce missing data. This study was conducted on a small sample and represents a simple pre–post design. Accordingly, our findings must be considered with caution, especially in light of missing data for some participants. Further, all but the most recent group were conducted as part of standard clinic care rather than a formalized research protocol. This is both an advantage with regard to greater generalizability and a disadvantage in the loss of data and lack of systematic selection of clients.

CONCLUSION

Overall, this preliminary work on GCBT for compulsive hoarding demonstrates feasibility and modest success in improving outcomes. Given the relatively lower dosage and shorter time frame (16 group sessions over 20 weeks compared to 26 individual sessions over 49 weeks), this group intervention fared reasonably well in reducing hoarding behaviors. Further development is needed to maximize

its benefits (e.g., increased length of group, frequency of sessions, and number of home visits, possible inclusion of family members and paraprofessionals) and determine the durability of treatment gains. From a research perspective, additional outcome data assessing hoarding symptoms, beliefs, and motivation would be useful, as well as investigation of the role of group process (e.g., interpersonal learning, cohesiveness) in affecting treatment delivery and outcomes. Future research studies may focus on honing group CBT methods for hoarding and testing these more rigorously in a randomized controlled trial with a minimum 1-year follow-up period.

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