Published in final edited form as:

Clin Gerontol. 2017 ; 40(3): 181–190. doi:10.1080/07317115.2017.1288670.

Effects of home-delivered cognitive behavioral therapy (CBT) for depression on anxiety symptoms among rural, ethnically diverse older adults

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Abstract

Background: We examined the effects of home-delivered cognitive-behavioral therapy (CBT) for depression on anxiety symptoms in an ethnically diverse, low resource, and medically frail sample of rural, older adults.

Method: This was a secondary analysis of a randomized clinical trial with 134 rural-dwelling adults 65 years and older with decreased quality of life and elevated psychological symptomatology. Anxiety symptoms were assessed with the anxiety and phobic anxiety subscales of the Symptom Checklist-90-Revised (SCL-90-R).

Results: Compared to a minimal support control condition, CBT for depression resulted in significantly greater improvements in symptoms of anxiety and phobic anxiety from pre-treatment to post-treatment.

Conclusion: Home-delivered CBT for depression can be an effective treatment for anxiety in a hard-to-reach older populations.

Keywords

anxiety; CBT; rural; home-delivered intervention

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The authors declare no potential conflicts of interest with respect to this research, authorship, and/or publication of this article.

In 2015, one in eight people worldwide was aged 60 or over; by 2030, older adults are projected to account for one in six people globally (United Nations Department of Economic and Social Affairs, 2015). Anxiety is one of the most commonly occurring mental health disorders in late-life (Byers, Yaffe, Covinsky, Friedman, & Bruce, 2010) with global estimates of the disorder ranging from 3.2% to 14.2% (Forsell & Winblad, 1997; Ritchie et al., 2004) and 7% in a representative U.S. sample (Gum, King-Kallimanis, & Kohn, 2009). Unfortunately, late-life anxiety frequently goes undiagnosed and thus untreated because age can substantially confound its clinical presentation and symptomatology. For example, older adults tend to worry less frequently than younger adults and demonstrate more obvious medical and somatic symptoms than psychological distress (Goncalves & Byrne, 2013; Wetherell et al., 2013). To complicate matters, fear of falling—and its associated avoidance of physical activities—is commonly perceived as a normative geriatric syndrome (Wetherell et al., 2013). However, when left untreated, late-life anxiety can significantly impact a variety of domains, including quality of life and satisfaction, as well as social and physical functioning (Brenes, Pennix, Judd, Rockwell, Sewell, & Wetherell, 2008; Bryant, Jackson, & Ames, 2009; Henning, Turk, Mennin, Fresco, & Heimberg, 2007).

While there are evidence-based psychological treatments (e.g., cognitive behavioral therapy [CBT]) for late-life anxiety (Ayers, Sorrell, Thorp, & Wetherell, 2007), significant barriers limit older adults from receiving evidence-based mental health treatment (Hogan, 2003). The reasons for this underuse are multi-faceted and include, but are not limited to: transportation challenges, financial limitations, mental health stigma, low confidence about treatment outcomes, and limited knowledge about mental health services and resources (Conner et al., 2010; Gum, Iser, & Petkus, 2010; Robb, Haley, Becker, Polivka, & Chwa, 2003). For healthcare providers, reasons contributing to underuse may include unawareness of, or inexperience with, interventions for late-life anxiety and reluctance to discuss mental health with older adults (Karlin & Duffy, 2004). Because of these and other barriers to accessible care, rural older adults who experience anxiety represent a particularly underserved group (Bocker, Glasser, Nielsen, & Weidenbacher-Hoper, 2012). Given the disproportionate number of older adults residing in rural areas (Howden & Meyer, 2011) and this group's largely unmet treatment needs (Brenes, Danhauer, Lyles, Hogan, & Miller, 2015), provision of effective psychological services to this sector of the population appears crucial.

CBT has demonstrated efficacy in reducing anxiety and worry in older adults, but the generalizability of these findings to community-dwelling rural, older adults remains equivocal. Brenes and colleagues (2015) found that telephone-delivered CBT was superior to telephone-delivered nondirective supportive therapy in reducing worry and symptoms of generalized anxiety disorder (GAD) among rural older adults. Yet, there is a paucity of research exploring the efficacy of other treatment modalities—such as home-delivered CBT—on reducing anxiety symptoms in this group. Using home-delivered CBT essentially eliminates barriers like transportation, commute anxiety, and stigma—thus improving accessibility to specialized mental health care for rural, older adults.

Project to Enhance Aged Rural Living (PEARL; Scogin, PI; AG16311) was a randomized control trial aimed at assessing the efficacy of home-delivered CBT for depression to improve quality of life and reduce negative psychological symptoms among ethnically

diverse, rural-dwelling, older adults through an immediate versus a minimal support control (MSC) group study design (LaRocca & Scogin, 2015; Scogin, Morthland, Kaufman, Burgio, Chaplin, & Kong, 2007; Scogin, Moss, Harris, & Presnell, 2014). Results found that participants receiving home-delivered CBT demonstrated significantly greater improvements in quality of life and reductions in psychological symptoms than MSC participants. Further, home-delivered CBT resulted in significantly lower depressive symptom severity scores among participants at post-treatment than MSC participants.

Emerging research suggests it is conceivable that treatments for late-life depression may also be appropriate for managing anxious symptoms in older adults. Few dispute the significant convergence of anxious and depressive features in later life (Almeida et al., 2012), and high comorbidity between these disorders across the life span (Beekman et al. 2000). Depression and anxiety share similar cognitive-affective, interpersonal, and behavioral maintaining factors (Harvey, Watkins, Mansell, & Shafran, 2004), with negative affect explaining significant variance in both constructs (Clark & Watson, 2001). Accordingly, both disorders appear responsive to transdiagnostic CBT approaches, which have been shown to simultaneously reduce anxiety and depression (Newby, McKinnon, Kuyken, Gilbody, & Dalgleish, 2015). Using secondary data from the PEARL study, the current study therefore investigated the effects of home-delivered, manualized CBT for depression on anxiety symptoms in rural, older adults. The hypotheses are as follows:

- (1) After controlling for baseline symptoms of anxiety and depression, anxiety symptoms would improve significantly more from pre-treatment to post-treatment for those receiving home-delivered CBT for depression relative to the MSC condition.
- (2) After controlling for baseline symptoms of phobic anxiety and depression, phobic symptoms of anxiety would improve significantly more from pre-treatment to post-treatment for those receiving home-delivered CBT for depression relative to the MSC condition.

Methods

Participants and Recruitment

To be included in the PEARL study, participants had to: (a) be 65 years of age or older; (b) have received a *T* score of 55 or below on the Quality of Life Inventory (QoLI; Frisch, Cornell, Villanueva, & Retzlaff, 1992); (c) have received a *T* score of greater than 45 on the Global Severity Index (GSI) of the Symptoms Checklist-90-Revised (SCL-90-R; Derogatis, 1994; Derogatis, Rickels, & Rock, 1976) using norms for nonpatient adults; and (d) be residents outside the cities of _____ (blinded) and _____ (blinded), in _____ (blinded). Exclusion criteria were: (a) having self-reported history of schizophrenia, bipolar disorder, or current substance abuse; (b) receiving psychotherapy currently; or (c) demonstrating significant cognitive impairment as indicated by a score of 23 or less (16 or less for those with less than a ninth-grade education) on the Mini-Mental Status Examination (Folstein, Folstein, & McHugh, 1975). For a more nuanced description of the project and necessary ad hoc modifications of the inclusion criteria, please see Scogin et al. (2007).

Multiple methods were used to recruit participants, including: (a) advertising in local print media; (b) obtaining referrals from services providers (e.g., physicians and pharmacists); (c) using an acronym (i.e., PEARL) to encourage interest; and (d) promoting the study at public and private home healthcare agencies, senior centers, church organizations, and hospitals with associated home healthcare groups.

Measures

Background Information.—Information on age, sex, race/ethnicity, marital status, educational attainment, income, subjective financial burden, self-reported health, medical comorbidity, depression, and cognitive functioning was obtained at pre-treatment (Table 1). Univariate analyses (chi-square tests, *t*-tests) indicated no significant differences among the demographic variables between the CBT group ($n = 70$) and the MSC group ($n = 64$).

Outcome Measure.—The Symptom Checklist-90-revised (SCL-90-R; Derogatis, 1976, 1994) is often used as an outcome measure of overall psychological symptomatology in treatment studies. The 90-items of the SCL-90-R comprise nine subscales: anxiety, depression, psychoticism, paranoid ideation, phobic anxiety, somatization, obsessive compulsivity, hostility, and interpersonal sensitivity. This measure is widely used to measure subjective psychopathology, and its anxiety subscale reliably differentiates between specific anxiety disorders and their symptoms (Kennedy, Morris, Pedley & Schwab, 2001). To evaluate the effects of home-delivered CBT for depression on symptoms of anxiety, the anxiety and phobic anxiety subscales were used as outcomes. Notwithstanding the clinical tendency to treat anxiety and phobia similarly, the SCL-90 R supports the discreteness of these constructs; thus, our analyses remained faithful to this conceptualization.

The anxiety dimension consists of 10-items and includes general signs of anxiety such as nervousness, somatic symptoms, as well as feelings of apprehension, dread, terror, and panic. The phobic anxiety dimension consists of 7-items which are defined as a persistent fear response to a specific person, place, object or situation, which is disproportionate to any actual threat, and leads to avoidance or escape behavior. Subscale scores were converted to *T*-scores based on community non-patient norms. The SCL-90-R has been shown to have high internal consistency, good test-retest reliability, and comparable validity to other self-report inventories (Derogatis & Unger, 2010). The anxiety and phobic anxiety subscales had a reliability of .85 and .82 in a sample of non-psychiatric symptomatic volunteers (Derogatis et al., 1976). In our sample, however, the anxiety and phobic anxiety subscales had a reliability of .84 and .62, respectively. This smaller alpha, however, is typical for scales with fewer items (Pallant, 2007).

Treatment Delivery.—Consistent with convention, treatment delivery was assessed through reviews of audiotaped CBT sessions. Independent raters used the Cognitive Therapy Scale (CTS; Young & Beck, 1980) to assess a randomly selected early (Session 2–8) and late (Session 9–16) session for treatment fidelity. The CTS is an 11-item measure with two subscales. The General Therapeutic Skills subscale assesses areas such as therapist understanding, interpersonal effectiveness, and pacing of the session. The Specific Cognitive Therapy Skills subscale assesses areas such as focus on key cognitions and behaviors,

application of cognitive-behavioral techniques, and quality of homework assigned. Each item is rated on a scale from 0–6, with 3 indicating satisfactory administration. The results of these reviews suggested that the CBT was delivered competently. The mean score across therapists on the general skill subscale was 3.9, and the mean score on the specific skills was 3.7. There were no significant differences among the therapists on the CTS.

Procedures

For a complete description of the procedures, see the larger study from which these secondary analyses were derived (Scogin et al., 2007). Trained research assistants completed assessments in the participants' homes. To minimize problems associated with low literacy and sensory deficits, the measures were read aloud to the participants. All assessments were audio-taped and 20% were reviewed to ensure adherence to the assessment protocol. All participants received a \$25 gift card for the completion of each assessment. The Institutional Review Board (IRB) approved all study procedures.

The Time 1 (T1; baseline) assessment included a detailed description of study procedures and participant consent followed by gathering of demographic information and the SCL-90-R. A commercially available high quality pseudo-random deviate generator was used to randomize participants to either the CBT or the MSC condition in a 1:1 ratio, stratified by site location (_____ [blinded] and _____ [blinded]) and race (African American or Caucasian). Among each of the four stratified groups, assignment to CBT or MSC was decided on the basis of a random number table. Following randomization, participants in the CBT condition were assessed on the SCL-90-R at mid-treatment (approximately 1 month from randomization) and immediately post-treatment (approximately 3–4 months from randomization). For the CBT group, Time 2 (T2) was the post-treatment assessment. For the MSC group, T2 was the pre-treatment assessment obtained at approximately 3-months following randomization. This is considered a pre-treatment assessment for the MSC group because upon completion, participants were given the option to initiate the CBT intervention. Thus, the controlled comparison in this study was between the T1 and T2 assessments for the two conditions. Figure 1 shows the flow of participants through the study.

Treatment

CBT.—Five Master of Social Work (MSW) clinical social workers without prior CBT experience administered the therapy based on the treatment manual of Thompson, Gallagher-Thompson, and Dick (1995). The Principal Investigator (PI) conducted therapist training, which included 12 hours of didactic instruction and 12 hours of experiential training. The PI provided the feedback to the therapists until competency was achieved, which was based on CTS scores above 3 on the 11 items with mock clients. Thereafter, weekly group supervision was conducted with the therapists.

The intervention consisted of 16 60-minute sessions of in-home CBT, with the opportunity to extend treatment to 20 sessions if needed. Table 3 outlines session content. Post-treatment assessment was conducted after 16 sessions or when a consensus of completion was determined by the therapist, the PI, and the participant. Twice-weekly sessions were planned

for the first month, with weekly sessions planned for the remainder of the treatment. The treatment protocol included modifications for use with vulnerable older adults such as providing in-session cue cards as memory aids, slowing down the pace of the therapy process, and simplification of homework assignments. Participants were also given the option (i.e., not a requirement) of identifying a family member or friend to serve as a treatment facilitator. Thirty-six percent (36%) of the participants choose to include a treatment facilitator. For MSC participants, facilitators completed assessments only. For CBT participants, facilitators engaged in a combination of four individual and four conjoint sessions (see Scogin et al., 2007 and Scogin et al., 2014 for additional session content). Facilitators, on average, attended 2.5 sessions (range 0–8). The therapeutic response on the main PEARL outcomes was not significantly different between participants that had facilitators and those that did not have facilitators; therefore, presence of facilitator was not considered in the subsequent analyses.

On average, participants completed 11.7 sessions of CBT. The average time to complete treatment was 5.3 months. Of the 70 participants assigned to the CBT condition, seven did not have a first session, and 12 withdrew prior to receiving a post-treatment assessment. Of the 64 participants assigned to the MSC condition, 14 withdrew prior to receiving a post-treatment assessment. The overall attrition rate was 25% with approximately 27% attrition in the CBT condition and 22% attrition in the MSC condition.

MSC.—The participants in this condition received brief weekly telephone calls from research assistants for three months. These calls served both as a means to monitor participants for deteriorating mental health status and as an incentive for continued participation with the project. CBT techniques were not administered during these calls. Unless the participant expressed concerns, these calls typically lasted no longer than 5 minutes. When participants expressed concern, research assistants were instructed to be supportive but to refrain from providing advice or introducing counseling techniques.

Data Analyses

All analyses used a critical alpha level of 0.05 for determining statistical significance. The characteristics of the experimental and control conditions at T1 were compared to establish that randomization was successful. All continuous variables were compared simultaneously with a multivariate analysis of variance, and categorical variables were compared using chi-square techniques. There were no significant differences in these comparisons, indicating that groups were successfully randomized.

One-way between-groups analyses of covariance (ANCOVA) were conducted to compare anxiety subscale scores on the SCL-90-R between the CBT and MSC groups at T2, controlling for T1 anxiety subscale scores. Phobic anxiety subscale scores on the SCL-90-R at T2 were also examined by group with an ANCOVA, controlling for T1 phobic anxiety subscale scores. In both analyses, we also controlled for T1 SCL-90-R depression subscale scores. ANCOVA was preferred to repeated measures because Levene's test showed homogenous variance structure on outcomes variables between CBT and MSC groups

(Dimitrov, Dimiter, & Rumrill, 2003; Winkens, van Breukelen, Schouten, & Berger, 2007). Participants missing T2 outcome values were excluded from these analyses.

Results

After adjusting for T1 anxiety and depression subscale scores, anxiety subscale scores improved significantly more for the CBT group relative to the MSC group, $F(1,101) = 4.97$, $p = .03$, $\eta^2 = .04$. Of those that endorsed elevated symptoms of anxiety (T scores ≥ 60) at T1, 19.5% in the CBT group and 12.5% in the MSC group had normal levels of anxiety (T scores < 60) at T2. After adjusting for T1 phobic anxiety and depression subscale scores, phobic anxiety subscale scores improved significantly more for the CBT group relative to the MSC group, $F(1,102) = 4.52$, $p = .04$, $\eta^2 = .03$. Of those that endorsed elevated symptoms of phobic anxiety (T scores ≥ 60) at T1, 26.8% in the CBT group and 18.8% in the MSC group had normal levels of phobic anxiety (T scores < 60) at T2. See Table 2 for means and standard deviations.

Discussion

Findings from this secondary data analysis provide support for the efficacy of home-delivered CBT for depression in reducing anxious and phobic symptoms among a sample of rural-dwelling older adults. While participants were recruited for their reports of impaired quality of life, above average psychological symptoms, and health conditions—many also endorsed significant symptoms of anxiety. Consistent with previous studies on depressive symptomology (Scogin et al., 2014) these findings indicate that CBT (vs. MSC) participants showed reduced anxiety and phobic anxiety SCL-90 R subscale scores. Results therefore enhance a scarce literature on CBT's otherwise unclear efficacy in rural populations, particularly with a unique treatment modality (i.e., home-delivered intervention) to increase accessibility.

Regarding the treatment's effect on general vs. phobic anxiety, it seems that CBT did not discriminate. That is to say, classic anxious symptoms—including nervousness, tension, feelings of apprehension, and terror—appeared just as responsive to treatment as persistent fear responses to specific persons, places, objects, or situations eliciting avoidance or escape behaviors. Unlike features of depression, which are often conceptualized as either psychological or somatic in nature—and thus differentially responsive to CBT (Scogin et al., 2014)—the constructs of anxiety and phobia share obvious affective and constitutional features (Craske & Waters, 2005). It stands to reason that both were amenable to CBT techniques for depression that included targeting unhelpful, irrational cognitions and teaching relaxation techniques.

Previous research has found that while CBT for anxiety is effective for older adults, it has lower efficacy in older adults compared to adults (Gould, Coulson, & Howard, 2012). Moreover, this meta-analysis found small effect sizes in favor of CBT over an active control condition. These findings provide support for other treatment approaches that may be used to substitute or augment CBT. Noting our results, and recalling the high co-morbidity of anxiety with depression in older adults, concurrently treating these disorders with an

integrated CBT approach may be one avenue to improving patient outcomes. As was done with the PEARL treatment protocol, CBT treatments should be modified for use with older adults, including greater emphasis on treatment rationale, correcting misconceptions about psychotherapy, slowing down the pace of the therapy process, providing memory aids, and simplifying homework assignments (Ladouceur, Leger, Dugas, & Freeston, 2004; Pachana, Woodward, and Byrne, 2007).

Limitations

Before proceeding, a few limitations of this research should be noted. For one, our sample was medically frail— associated complications (and resultant cancellations) may explain why the time to therapy completion averaged 5.3 months instead of 3 or 4. We recognize how this asymmetry in treatment (vs.) control dosage may confound observed results. The frailty of the sample is also implicated in the study's attrition rate, though it appears commensurate with those observed in other longitudinal studies using similar samples (Brenes et al., 2015; Choi, Marti, Bruce, & Hegel, 2013; Rhodes, 2005). Further, while most participants exhibited symptoms of anxiety, they were not recruited on the basis of these symptoms alone. And the nature of the control group—minimal support contact—does not permit us to unequivocally attribute experimental group changes to the specific effects of treatment. An alternative control paradigm, such as client-centered psychotherapy, may more clearly illustrate the effects of CBT. The primary outcome was assessed with the SCL-90 R, which has not been validated with older adults (Therrien & Hunsley, 2012); therefore, results should be replicated with psychometrically sound anxiety measures such as the Geriatric Anxiety Inventory (GAI; Pachana, Byrne, Silddle, Koloski, Harley, & Arnold, 2007). Because follow-up data for these participants are unavailable, current findings cannot speak to the duration or sustainability of treatment effects associated with this investigation. Similarly, though observed changes in symptoms of anxiety were statistically significant, effects were small ($\eta^2 = .04$) and participants' were not anxiety or phobia-free.

Conclusions

Current findings nonetheless complement previously documented successes of CBT for geriatric psychopathology (e.g., Ciechanowski et al., 2004; Hall, Kellet, Berrios, Bains, & Scott, 2016; Scogin et al., 2014) and enhance its traction as an evidence-based treatment for anxiety in later life (Hendricks, Oude Voshaar, Keijsers, Hoogduin, & van Balkom, 2008). This treatment may be implemented through home health care agencies, which have established personnel, and protocols for delivering mental health services to older adults. One statewide initiative to address depression through fourteen homecare agencies suggests the feasibility of home-based mental health treatment for medically frail older adults (Delaney, Barrere, Grimes, & Apostolidis, 2016). Noting the varied circumstances surrounding late life anxiety and the complexity of this population, interventions that can be flexibly administered would most likely yield the greatest utility (McMurchie, Macleod, Power, Laidlaw, & Prentice, 2013). Rural providers especially, therefore, may consider executing CBT protocols through alternative modalities—such as via telephone or the internet (e.g. Skype or other video interfaces). However, further research is needed to evaluate the effectiveness of these alternative delivery systems.

The results of this study should encourage the consideration of CBT as a treatment for those who are among the most difficult to engage in treatment: older adults in rural environment with limited access to specialized services.

Acknowledgments

This research was supported by the National Institute on Aging under Grant AG16311.

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Clinical Implications:

Additional research should explore integrated anxiety and depression protocols and other treatment modalities, including bibliotherapy or telehealth models of CBT, to reduce costs associated with its in home delivery. Flexibility in administration and adaptations to the CBT protocol may be necessary for use with vulnerable, rural older adults.

Clinical Implications

- Both conditions (CBT and MSC) reduced symptoms of anxiety and phobic anxiety. However, CBT for depression was superior to MSC, resulting in a significantly greater reduction in these symptoms.
- To improve anxiety outcomes in older adults, treating anxiety and depression concurrently—using integrated protocols as well as adapting these interventions for use with ethnically diverse, low resource, and medically frail sample of rural, older adults— is recommended.
- Additional research should explore other modalities, including bibliotherapy or telehealth models of CBT, to increase accessibility to mental healthcare and reduce costs associated with it in home delivery.

Figure 1.

Flow of participants through study. Withdrew indicates participants discontinued for reasons including (a) moved in with family, lost interest, no time/too busy, and family reasons; (b) died, became too medically frail, moved into an institutional setting; or (c) moved with no trace, lost contact. Time 2 for the cognitive-behavioral therapy (CBT) condition is the post-treatment assessment. Time 2 for the MSC group was the pre-treatment assessment obtained at approximately 3-months following randomization.

Table 1.Pre-treatment sample characteristics ($N = 134$)

Variable	In-Home CBT $M \pm SD$ or N (%)	MSC $M \pm SD$ or N (%)	p -value
Total	70	64	---
Age	75.67 $\pm$ 6.94	74.66 $\pm$ 7.91	.44
Sex			.07
Female	62 (88.6)	49 (76.6)	
Male	8 (11.4)	15 (23.4)	
Race/Ethnicity			.94
African-American/Black	40 (57.1)	37 (57.8)	
Caucasian/White	30 (42.9)	27 (42.2)	
Years of Education			.43
0–8	25 (35.7)	23 (35.9)	
9–11	15 (21.4)	18 (28.1)	
12	9 (12.9)	11 (17.2)	
13–16	21 (30.0)	12 (18.8)	
Income			.08
\$0-\$4999	0 (0)	3 (5.6)	
\$5000-\$9999	26 (48.1)	33 (61.1)	
\$10000-\$14999	15 (27.8)	9 (16.7)	
\$15000-\$19999	5 (9.3)	4 (7.4)	
\$20000-\$49999	6 (11.1)	4 (7.4)	
\$50000-\$70000>	2 (3.7)	1 (1.9)	
Income Adequacy			.33
Not difficult	6 (9.1)	8 (12.5)	
Not very difficult	12 (18.2)	6 (9.4)	
Somewhat difficult	26 (39.4)	24 (37.5)	
Very difficult	22 (33.3)	26 (40.6)	
Marital Status			.56
Never Married	6 (8.6)	2 (3.2)	
Married	14 (20.0)	13 (20.6)	
Widowed	42 (60.0)	36 (57.1)	
Divorced	5 (7.1)	7 (11.1)	
Separated	3 (4.3)	5 (7.9)	
Self-reported Level of Health			.62
Poor	22 (31.4)	25 (40.3)	
Fair	33 (47.1)	27 (41.9)	
Good	10 (14.3)	8 (12.9)	
Very Good	3 (4.3)	3 (4.8)	
Excellent	2 (2.9)	0 (0)	
Comorbidity	3.00 $\pm$ 2.55	3.25 $\pm$ 2.49	.61
MMSE	25.16 $\pm$ 3.49	24.69 $\pm$ 3.53	.44

Variable	In-Home CBT $M \pm SD$ or N (%)	MSC $M \pm SD$ or N (%)	p -value
SCL-90-R Depression	58.63 $\pm$ 8.27	60.73 $\pm$ 7.92	.14

Note. Table includes 134 randomized participants who completed baseline assessment. Missing data for participants in the following categories: income (27), income adequacy (4), marital status (1), self-reported level of health (1), comorbidity (23). Comorbidity is the number of reported chronic health conditions from a list of seven. CBT = Cognitive Behavioral Therapy; MSC = Minimal Support Control; MMSE = Mini-Mental State Examination; SCL-90-R = Symptom Checklist-90-revised.

Table 2.

Outcome measures at Time 1 and Time 2 by condition

Measure	Time	<i>M ± SD</i>	
		In-Home CBT group	MSC group
Anxiety *	Time 1	55.47 ± 9.84	57.29 ± 10.12
	Time 2	49.71 ± 9.85	54.98 ± 10.79
Phobic Anxiety *	Time 1	55.61 ± 9.33	56.43 ± 9.93
	Time 2	50.54 ± 8.91	55.34 ± 10.58

Note.

* indicates that the CBT group were experiencing significantly lower anxiety [$F(1,101) = 4.97, p = .03, \eta^2 = .04$] and phobic anxiety [$F(1,102) = 4.52, p = .04, \eta^2 = .03$] at Time 2 than those in the MSC group. CBT = Cognitive Behavioral Therapy; MSC = Minimal Support Control.

Table 3.

CBT for depression session content

Session numbers	Session content	Session goals
1–3: Getting started + Psychoeducation	<ul style="list-style-type: none"> • Describe the cognitive model of depression • Give examples of the ABC approach • Review client's history and determine "chief" complaint • Discuss target complaints to be addressed with CBT 	<ul style="list-style-type: none"> • Clarify cognitive model • Discuss treatment expectations • Elicit target complaints • Establish goals for therapy
4–16: Skill training phase	<ul style="list-style-type: none"> • 3- column Unhelpful Thought Diary (UTD) and emotions rating scale • Review of cognitive distortions (e.g. catastrophizing) • Techniques (e.g. thought stopping and substitution) to challenge negative thought patterns • 5-column UTD • Tension monitoring • Relaxation training • Imagery • Anger management techniques • Mood rating and pleasant events scheduling • Thought stopping and scheduling worry time • Assertiveness skills training • Problem solving (e.g. brainstorming, evaluating solutions) 	<ul style="list-style-type: none"> • Teach clients how to identify unhelpful thoughts and thought patterns • Learn how to challenge unhelpful thoughts • Teach clients how to control anxiety and frustration through relaxation and other skills • Learn how to monitor mood • Learn signs of over-thinking or excessive worrying • Learn adaptive, assertive communication skills • Learn how to manage stressful situations and problem-solve
Mid-therapy evaluation	<ul style="list-style-type: none"> • Review original goals • Determine if the goals are met • Identify what parts of goals are left to work on • Address new goals 	<ul style="list-style-type: none"> • Determine and evaluate progress of treatment goals • Consolidate skills • Make decisions for rest of therapy
17–20: Termination & maintenance	<ul style="list-style-type: none"> • Schedule the ending process and discuss importance of gradual termination • Process meaning of ending therapy • Assess strengths and weaknesses of treatment • Discuss and review therapeutic relationship • Address client concerns about ending therapy and next steps (e.g. anti-depressant medication) • Create maintenance guide 	<ul style="list-style-type: none"> • Review what was learned • Predict relapse • Anticipate what to do • Get closure on relationship issues • Identify and recognize danger signals