Cognitive-Behavioral Therapy for Chronic Cardiopulmonary Conditions: Preliminary Outcomes From an Open Trial

Jeffrey A. Cully, PhD; Melinda A. Stanley, PhD; Anita Deswal, MD, MPH; Nicola A. Hanania, MD, MS; Laura L. Phillips, PhD; and Mark E. Kunik, MD, MPH

Objective: To examine the effectiveness of tailored cognitive-behavioral therapy (CBT) for veterans with congestive heart failure (CHF) and chronic obstructive pulmonary disease (COPD) with comorbid symptoms of depression and/or anxiety.

Method: Twenty-three veterans with CHF and/or COPD, identified from electronic medical records at a large Veterans Affairs medical center, with clinically significant symptoms of depression (Beck Depression Inventory-II [BDI-II] score ≥ 14) and/or anxiety (State Trait Anxiety Inventory [STAI] score ≥ 40) were enrolled in an open trial from August 2007 to August 2008. All patients received CBT delivered mostly by advanced psychology trainees that consisted of 6 weekly sessions and 3 telephone booster calls. The intervention expanded traditional CBT techniques in order to address patients' emotional and physical health difficulties using in-person and telephone-based sessions. Outcomes examined depression (BDI-II), anxiety (STAI), and disease-specific quality of life (Chronic Respiratory Questionnaire [CRQ] and Kansas City Cardiomyopathy Questionnaire [KCCQ]) postintervention and at 3-month follow-up.

Results: Symptoms of depression (effect size = 0.97) and anxiety (effect size = 0.57) were improved at 8 weeks and maintained at 3-month follow-up. Physical disease outcomes were also improved for COPD (CRQ mastery effect size = 0.65, CRQ fatigue effect size = 0.75) and CHF (KCCQ overall summary score effect size = 1.19).

Conclusions: Modifications to traditional CBT approaches have the potential to address the emotional and physical health challenges associated with complex cardiopulmonary patients. The brief duration and use of telephone-based sessions increase the opportunity for CBT interventions to be integrated within primary care settings, but additional trials are needed.

Trial Registration: clinicaltrials.gov Identifier: NCT00727155

Prim Care Companion J Clin Psychiatry 2010;12(4):e1–e6

Submitted: *September 28, 2009; accepted November 12, 2009.*
Published online: *July 15, 2010 (doi:10.4088/PCC.09m00896blu).*
Corresponding author: *Jeffrey A. Cully, PhD, Houston Center for Quality of Care & Utilization Studies, Michael E. DeBakey VAMC (152), 2002 Holcombe, Houston, TX 77030 (jcully@bcm.tmc.edu).*

Depression and anxiety occur in 20%–50% of patients with congestive heart failure (CHF)[1] as well as chronic obstructive pulmonary disease (COPD)[2] and create as much burden on patients and health care systems as the physical disease.[3,4] Despite numerous observational studies of depression and anxiety in CHF and COPD populations, few intervention studies exist.[1,5]

In the only known large psychotherapy clinical trial, Kunik et al[6] found significant decreases in depression and anxiety symptoms using 8 sessions of cognitive-behavioral therapy (CBT). However, this randomized trial experienced high attrition rates (49%) and resulted in no impact on physical health outcomes.

Novel treatment approaches are therefore needed to address the complexity of multimorbidity created by depression and anxiety with chronic medical illnesses.[7,8] The current study examined the feasibility and preliminary outcomes of a brief, tailored CBT intervention for veterans with CHF and/or COPD and comorbid symptoms of depression and/or anxiety. The intervention modified traditional CBT by integrating emotional- and physical health–coping techniques and increasing flexibility, including telephone sessions to improve treatment adherence. We hypothesized that patients receiving the modified CBT procedures would evidence significant changes in mental and physical health status posttreatment (8 weeks) and at 3-month follow-up.

METHOD

A full listing of study methods for this open trial conducted from August 2007 to August 2008 is available in a separate article.[9] An abbreviated method section is provided here. All participants completed informed consent, and study procedures were approved by a local institutional review board and a Veterans Affairs (VA) research committee.

Clinical Points

- Despite a high prevalence of depression and anxiety, psychotherapies such as cognitive-behavioral therapy (CBT) are infrequently utilized by patients with chronic cardiovascular disease.
- Modifications to traditional CBT are critical to increase the feasibility and acceptability of these intervention practices for medically ill patients in the primary care setting.
- Expansion of traditional CBT practices, which are brief, offer telephone-based options, and include focused attention on patient physical health concerns, has the potential to increase patient engagement and expand treatment outcomes for depression and anxiety, as well as physical health/quality of life.

Participants

Patients with CHF and COPD were identified from the VA electronic medical record system using *International Classification of Diseases* codes, were confirmed to have CHF or COPD by medical record review, and were recruited via opt-out letters mailed to their home address (n = 355). Interested participants completed a telephone screening (n = 59) to determine eligibility based on CHF and/or COPD impairment (New York Heart Association[10] and Medical Research Council[11]), cognitive functioning,[12] and a 5-item depression and anxiety screen.[13] Participants were excluded if they (1) did not report CHF or COPD impairments, (2) had suspected cognitive impairment, or (3) did not report depression or anxiety symptoms.

Twenty-nine eligible veterans were invited to an in-person assessment to determine final eligibility. Included patients had clinically significant symptoms of depression and/or anxiety according to the Beck Depression Inventory-II[14] ([BDI-II] a score ≥ 14) or the State Trait Anxiety Inventory[15] ([STAI] a score ≥ 40 on either the state or trait scale) and no evidence of mania, alcohol/substance abuse, or psychosis (Mini International Neuropsychiatric Interview[16]). Six patients were excluded during the in-person appointment for not meeting BDI-II or STAI criteria. Thus, 23 patients were eligible for the intervention.

Intervention

The CBT intervention was labeled Adjusting to Chronic Conditions Using Education, Support, and Skills (ACCESS).[9] ACCESS uses a manualized, modular therapeutic approach to address the complex needs of CHF and COPD patients by emphasizing the interplay between physical and emotional health.

Six 50-minute treatment sessions and three 10- to 15-minute posttreatment telephone booster sessions were used. All participants received 2 face-to-face sessions on increasing awareness and controlling physical and emotional symptoms. Following the "core modules," patients were provided with a series of module choices from which they worked with their clinician to select skills for their most pressing needs. Elective modules were expanded from prior intervention trials[6,17] and addressed physical health/lifestyle changes, increasing pleasant events, maladaptive thinking, relaxation, and problem solving. Elective modules were offered by telephone or face to face on the basis of patient preference. Brief telephone booster sessions occurred at weeks 8, 10, and 12 to solidify changes.

Providers

Five providers administered the ACCESS intervention and included a licensed clinical psychologist (J.A.C., 2 patients), 2 psychology postdoctoral fellows (7 patients), and 2 psychology predoctoral interns (14 patients). Fellows and interns received structured training in the intervention, including a therapist manual and COPD/CHF education. Practitioners role played the intervention before seeing patients and received weekly supervision (J.A.C.). All treatment sessions were audiotaped, and a random 10% were reviewed by the lead investigator. Audiotaped reviews indicated adherence and competence with the protocol.

Outcome Measures

Study participants completed assessments at baseline, posttreatment (8 weeks), and 3 months posttreatment.

Symptoms of depression were assessed using the BDI-II, a 21-item, self-report measure that has strong reliability and validity with the medically ill and is sensitive to change in psychotherapy trials.[14,17,18] Symptoms of anxiety were measured according to the STAI-Trait,[15] a 20-item self-report measure of trait or dispositional anxiety. The STAI-Trait has been validated in cardiopulmonary patients.[19] Higher scores on the BDI-II and STAI-Trait indicate greater pathology.

COPD disease-specific outcomes were measured using the Chronic Respiratory Questionnaire (CRQ),[20] a 20-item self-report inventory that measures dyspnea, fatigue, emotional functioning, and mastery. The CRQ is often used to complement clinical and functional parameters (eg, spirometry) and has been shown to be

a reliable, valid, and sensitive health status measure.[21] CRQ scores were transformed to a 100-point scale; higher scores reflect improved outcomes. A change in score of 8.33 or more on any individual item/scale is reflective of a clinically important difference.[22]

CHF disease-specific outcomes were measured by the Kansas City Cardiomyopathy Questionnaire (KCCQ),[23] a 23-item, self-report inventory that measures physical limitations, CHF symptoms (stability, frequency, burden), self-efficacy, quality of life, and social limitations. The KCCQ is reliable, valid, and sensitive and is fast becoming a foundational patient-centered assessment for cardiology trials.[24] For this study, the KCCQ overall summary score was examined. Higher scores on the KCCQ reflect improved outcomes, and clinical importance is roughly defined by change scores of 22 (large), 11 (moderate), and 6 (small).[25]

Participant satisfaction with treatment was evaluated using the Client Satisfactory Questionnaire (CSQ).[26] The CSQ is an 8-item, empirically derived, self-report measure that is widely used to assess patient satisfaction with services.[27] Psychometric properties are generally strong, with demonstrated reliability in older adults with anxiety.[28] CSQ data are reported for the 20-week (3 months posttreatment) follow-up.

Data Analysis

Analyses focused on describing the patient sample; utilization of the intervention; clinical outcomes related to depression, anxiety, and disease-specific health status; and patient satisfaction with the intervention. Further analysis of clinical outcomes focused on treatment completers and compared mean change scores at posttreatment (8 weeks) and 3-month follow-up on the BDI-II, STAI-Trait, 4 CRQ subscales, and KCCQ overall score using Cohen *d* effect size calculations. Effect size calculations represent the size (rather than statistical significance) of the clinical effect for which scores of 0.2 (odds ratio [OR] = 1.2) are considered small, 0.5 (OR = 1.6) are considered medium, and 0.8 (OR = 2.2) are considered large.

RESULTS

Sample Characteristics

Table 1 lists demographic and general clinical characteristics of the 23 enrolled patients. This sample was almost exclusively male but included a diverse mix of patients with CHF, COPD, and depression and anxiety symptoms.

Table 1. Characteristics of Veterans With Congestive Heart Failure (CHF) and/or Chronic Obstructive Pulmonary Disease (COPD) Treated With Cognitive-Behavioral Therapy (N = 23)[a]

Characteristic	Value
Age, mean (SD), y	71.44 (8.23)
Gender (male)	22 (95.7)
Race	
White	18 (78.3)
Black	5 (21.7)
Marital status	
Married	13 (56.5)
Divorced	6 (26.1)
Widowed	2 (8.7)
Never married	2 (8.7)
Living status	
Alone	8 (34.8)
Spouse	11 (47.8)
Family/friend	4 (17.3)
Education	
High school	7 (30.4)
Some college	7 (30.4)
College graduate	9 (39.1)
Income	
< $20,000	11 (47.8)
$20,000–$39,999	9 (39.1)
$40,000 or more	2 (8.7)
CHF/COPD status	
CHF only	6 (26.1)
COPD only	10 (43.5)
Both	7 (30.4)
Years since CHF/COPD diagnosis, median	
CHF	8
COPD	9
New York Heart Association status[b]	
Class II	3 (23.1)
Class III	4 (30.8)
Class IV	6 (46.2)
Medical Research Council status[c]	
Grade 2	1 (5.9)
Grade 3	5 (29.4)
Grade 4	3 (17.6)
Grade 5	8 (47.1)
Depression symptoms only (Beck Depression Inventory-II)	6 (26.1)
Anxiety symptoms only (State Trait Anxiety Inventory)	4 (17.4)
Depression and anxiety symptoms	13 (56.5)

[a]Values are presented as n (%) unless otherwise specified.
[b]n = 13.
[c]n = 17.

Treatment Characteristics

Of the 23 enrolled patients, 20 (87%) attended at least 1 session, and 17 (73.9%) attended all 6. The mean number of sessions attended was 5.0 (SD = 2.0). When given the option, patients selected telephone sessions 39.1% of the time.

The 3 patients who did not attend all 6 sessions attended 1, 2, and 3 sessions, respectively. Noncompleters included 1 patient admitted for prolonged inpatient treatment related to heart failure and 2 patients who reported that the intervention was too time intensive. Using χ^2 and analysis of variance tests, we found no differences for baseline characteristics of patients who dropped out before or during treatment and those who completed treatment.

Treatment Outcomes

Depression and anxiety. Mean changes on the BDI-II were 7.11 at 8 weeks (effect size = 0.97) and 6.88 at 3-month follow-up (effect size = 1.03). Mean changes on

Table 2. Mean Scores and Effect Sizes for Outcome Variables Among Veterans With Congestive Heart Failure (CHF) and/or Chronic Obstructive Pulmonary Disease (COPD) Treated With Cognitive-Behavioral Therapy[a]

Variable	Baseline, Mean (SD)	Wk 8, Mean (SD)	Wk 20, Mean (SD)	Baseline to Wk 8 Effect Size, Cohen *d*	Baseline to Wk 20 Effect Size, Cohen *d*
Full sample[b]					
BDI-II	17.35 (5.31)	10.24 (8.86)	10.47 (7.77)	0.97	1.03
STAI-trait	41.35 (10.76)	34.77 (12.46)	36.77 (13.37)	0.57	0.38
Patients with CHF, with or without comorbid COPD[c]					
KCCQ overall summary score	38.31 (9.76)	55.44 (17.85)	49.35 (12.53)	1.19	0.98
Patients with COPD, with or without comorbid CHF[d]					
CRQ dyspnea	45.64 (16.69)	47.13 (21.02)	44.04 (20.83)	0.08	−0.07
CRQ emotion	58.06 (15.26)	72.16 (20.61)	65.93 (18.01)	0.78	0.47
CRQ fatigue	37.18 (15.91)	50.96 (20.49)	43.59 (15.18)	0.75	0.41
CRQ mastery	56.73 (17.56)	69.23 (20.80)	68.27 (23.48)	0.65	0.56

[a]Effect sizes of 0.2 are considered small, 0.5 medium, and 0.8 large.
[b]n = 17.
[c]n = 10.
[d]n = 13.
Abbreviations: BDI-II = Beck Depression Inventory-II, CRQ = Chronic Respiratory Questionnaire, KCCQ = Kansas City Cardiomyopathy Questionnaire, STAI = State Trait Anxiety Inventory.

the STAI-Trait were 6.58 (effect size = 0.57) at 8 weeks and 4.58 (effect size = 0.38) at 3-month follow-up (Table 2).

Disease-specific health status. Mean changes on the KCCQ overall summary score were clinically meaningful at 8 weeks (17.13, effect size = 1.19) and 3-month follow-up (11.04, effect size = 0.98). Effect size data for the CRQ emotion and fatigue subscales were also improved at 8 weeks but declined somewhat by the 3-month follow-up. Emotion and fatigue scores approached the clinical significance cutoff of 8.33,[22] while treatment effects for mastery exceeded the cutoff and were maintained at 3-month follow-up. No notable changes were obtained for the dyspnea subscale.

Satisfaction. Overall satisfaction scores according to the CSQ at the 3-month follow-up assessment were globally high. Notable individual CSQ items asked patients to rate whether or not the ACCESS program met their specific needs, whether the services they received helped them to deal more effectively with their difficulties, and, overall, how satisfied they were with the ACCESS program. All 17 patients who completed the trial also completed the CSQ items at 3-month follow-up. Mean scores included 3.40 (SD = 0.78) for the "meeting needs" item (4 = almost all needs met and 3 = most needs met), 3.74 (SD = 0.56) for the "helped deal more effectively with difficulties" item (4 = helped a great deal and 3 = helped somewhat), and 3.74 (SD = 0.44) for the "overall satisfaction" item (4 = very satisfied and 3 = mostly satisfied).

DISCUSSION

This study found that a tailored CBT approach is associated with greater patient acceptability (reduced attrition and high satisfaction) and improved mental and physical health status outcomes. Compared to prior intervention trials, the comparative effect sizes of the current open trial suggest larger effects for depression and anxiety with notable significant clinical effects for CHF quality of life and COPD mastery and with COPD fatigue approaching a clinically meaningful effect. These results suggest that this was a potent time-limited intervention that addressed both emotional and physical health factors commonly associated with these chronic and disabling conditions.

Depression and anxiety in CHF and COPD patients are often difficult to identify and treat yet, if untreated, lead to worsening functional and health status outcomes.[1,29] Evidence-based psychotherapies such as CBT, developed largely within mental health settings, require modification in structure and content to address the complex needs of multimorbid patients.[7] Prior trials using traditional CBT approaches for the medically ill have not produced improvements in quality of life.[6,17]

In the present study, we found that over 50% of enrolled patients were experiencing co-occurring clinically significant levels of depression and anxiety symptoms. The fact that patients with CHF and COPD frequently encounter both depression and anxiety suggests the importance of screening for both conditions and offering clinical services that address these overlapping but unique patient needs. Fortunately, as exemplified in the current trial, blended interventions have the potential to affect both depression and anxiety symptom outcomes.

Changes to the current CBT intervention such as an integration of physical and emotional health concerns and use of individual appointments, shorter treatment duration, incorporation of telephone sessions, and increased patient choice are likely reasons for the apparent increase in engagement and treatment effects. Although the sample size was small and the intervention occurred as part of a stand-alone research study (and

not embedded within the primary care or specialty care settings), all indications from our recruitment data and from patient feedback suggest that the intervention would be effective if offered as part of the regular care practices for patients with CHF and/or COPD. Patients who participated in the current trial frequently reported a strong desire to address the emotional and psychological stressors associated with managing a chronic illness and the limited opportunities to have these concerns addressed in the current care environment.

Notable limitations of this trial, which restrict the definitiveness of the findings, include the relatively small sample size and the lack of a comparison treatment group. Without a comparison group, it is difficult to determine the exact amount of change attributable to the intervention. However, patients with COPD and CHF rarely experience significant improvements in quality of life, given the chronic and debilitating nature of the illness process itself, providing indirect evidence of the impact of the ACCESS program. Additionally, standardized satisfaction data from the CSQ suggest that patients experienced the intervention to be both highly satisfying and effective for helping them cope with their emotional and physical health difficulties.

Future research is needed to examine the reach of evidence-based psychological interventions in the primary care environment, including data on best practices for implementation. Within the current trial, a wide variety of mental health providers were used, but predominately predoctoral-level psychology interns, suggesting that highly trained and specialized CBT experts may not be required to improve patient outcomes. Future studies should attempt to better understand the ability of a wide range of providers to effectively implement this seemingly user-friendly intervention.

In conclusion, tailored, focused, and flexible CBT interventions have the potential to address the multifaceted physical and emotional health needs of multimorbid patients with CHF and COPD. This open trial provides preliminary evidence for a 6-session CBT approach that holds promise as a medical/primary care setting intervention. Additional trials of similar approaches are needed with larger samples and varying patient populations.

Author affiliation: Michael E. DeBakey Veterans Affairs Medical Center (Drs Cully, Deswal, Phillips, and Kunik); Houston Center for Quality of Care & Utilization Studies (Drs Cully, Stanley, Phillips, and Kunik); VA South Central Mental Illness Research, Education, and Clinical Center (Drs Cully, Stanley, Phillips, and Kunik); and Menninger Department of Psychiatry and Behavioral Sciences (Drs Cully, Stanley, Phillips, and Kunik) and Department of Medicine (Drs Cully, Deswal, Hanania, and Kunik), Baylor College of Medicine, Houston, Texas.
Potential conflicts of interest: The authors report no financial or other affiliations relevant to the subject of this article.
Funding/support: This work was supported in part by a VA HSR&D Career Development Award (Dr Cully; CDA-2 05-288), the South Central MIRECC Pilot Study Program, the Gillson Longenbaugh Foundation, and the Houston VA HSR&D Center of Excellence (Houston Center for Quality of Care & Utilization Studies, HFP90-020).
Disclaimer: The views expressed here are those of the authors and do not necessarily represent those of the Department of Veterans Affairs or Baylor College of Medicine.

REFERENCES

1. Rutledge T, Reis VA, Linke SE, et al. Depression in heart failure: a meta-analytic review of prevalence, intervention effects, and associations with clinical outcomes. *J Am Coll Cardiol*. 2006;48(8):1527–1537.
2. Kunik ME, Roundy K, Veazey C, et al. Surprisingly high prevalence of anxiety and depression in chronic breathing disorders. *Chest*. 2005;127(4):1205–1211.
3. Cully JA, Graham DP, Stanley MA, et al. Quality of life in patients with chronic obstructive pulmonary disease and comorbid anxiety or depression. *Psychosomatics*. 2006;47(4):312–319.
4. Cully JA, Johnson M, Moffett ML, et al. Depression and anxiety in ambulatory patients with heart failure. *Psychosomatics*. 2009;50(6):592–598.
5. Maurer J, Rebbapragada V, Borson S, et al. ACCP Workshop Panel on Anxiety and Depression in COPD. Anxiety and depression in COPD: current understanding, unanswered questions, and research needs. *Chest*. 2008;134(suppl 4):43S–56S.
6. Kunik ME, Veazey C, Cully JA, et al. COPD education and cognitive behavioral therapy group treatment for clinically significant symptoms of depression and anxiety in COPD patients: a randomized controlled trial. *Psychol Med*. 2008;38(3):385–396.
7. Keeley RD, Smith JL, Nutting PA, et al. Does a depression intervention result in improved outcomes for patients presenting with physical symptoms? *J Gen Intern Med*. 2004;19(6):615–623.
8. Cully JA, Graham DP, Stanley MA, et al. Depressed and anxious COPD patients: predictors of psychotherapy engagement from a clinical trial. *J Clin Psychol Med Settings*. 2007;14(2):160–164.
9. Cully JA, Paukert A, Falco J, et al. Cognitive-behavioral therapy: innovations for cardiopulmonary patients with depression and anxiety. *Cognit Behav Pract*. 2009;16(4):394–407.
10. Bennett JA, Riegel B, Bittner V, et al. Validity and reliability of the NYHA classes for measuring research outcomes in patients with cardiac disease. *Heart Lung*. 2002;31(4):262–270.
11. Bestall JC, Paul EA, Garrod R, et al. Usefulness of the Medical Research Council (MRC) dyspnoea scale as a measure of disability in patients with chronic obstructive pulmonary disease. *Thorax*. 1999;54(7):581–586.
12. Callahan CM, Unverzagt FW, Hui SL, et al. Six-item screener to identify cognitive impairment among potential subjects for clinical research. *Med Care*. 2002;40(9):771–781.
13. Kunik ME, Azzam PN, Souchek J, et al. A practical screening tool for anxiety and depression in patients with chronic breathing disorders. *Psychosomatics*. 2007;48(1):16–21.
14. Beck AT, Steer RA, Brown GK. *Manual for the Beck Depression Inventory*. 2nd ed. San Antonio, TX: Harcourt Brace; 1996.
15. Speilberger CD, Gorsuch RL, Lushene R, et al. *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press; 1970.
16. Sheehan DV, Lecrubier Y, Sheehan KH, et al. Comparison of the Mini International Neuropsychiatric Interview (MINI) with the SCID-P and the CIDI: a validity study. *Psychopharmacol Bull*. 1995;31:616.
17. Stanley MA, Wilson NL, Novy DM, et al. Cognitive behavior therapy for generalized anxiety disorder among older adults in primary care: a randomized clinical trial. *JAMA*. 2009;301(14):1460–1467.
18. Arnau RC, Meagher MW, Norris MP, et al. Psychometric evaluation of the Beck Depression Inventory-II with primary care medical patients. *Health Psychol*. 2001;20(2):112–119.
19. Kawachi I, Sparrow D, Vokonas PS, et al. Symptoms of anxiety and risk of coronary heart disease: the normative aging study. *Circulation*. 1994;90(5):2225–2229.
20. Guyatt GH, Berman LB, Townsend M, et al. A measure of quality of life for clinical trials in chronic lung disease. *Thorax*. 1987;42(10):773–778.
21. Schünemann HJ, Puhan M, Goldstein R, et al. Measurement properties and interpretability of the Chronic Respiratory Disease Questionnaire (CRQ). *COPD*. 2005;2(1):81–89.
22. Jaeschke R, Singer J, Guyatt GH. Measurement of health status: ascertaining the minimal clinically important difference. *Control Clin Trials*. 1989;10(4):407–415.

23. Spertus JA, Conard MR, Rinaldi H, et al. The Kansas City Cardiomyopathy Questionnaire is sensitive to clinical change in congestive heart failure. *J Am Coll Cardiol*. 2002;39:460.
24. Krumholz HM. Outcomes research: generating evidence for best practice and policies. *Circulation*. 2008;118(3):309–318.
25. Spertus J, Peterson E, Conard MW, et al. Cardiovascular Outcomes Research Consortium. Monitoring clinical changes in patients with heart failure: a comparison of methods. *Am Heart J*. 2005;150(4):707–715.
26. Larsen DL, Attkisson CC, Hargreaves WA, et al. Assessment of client/patient satisfaction: development of a general scale. *Eval Program Plann*. 1979;2(3):197–207.
27. Attkisson CC, Zwick R. The Client Satisfaction Questionnaire: psychometric properties and correlations with service utilization and psychotherapy outcome. *Eval Program Plann*. 1982;5(3):233–237.
28. Akkerman RL, Stanley MA, Averill PM, et al. Recruiting older adults with generalized anxiety. *J Ment Health Aging*. 2001;7:385–394.
29. Katon WJ. Clinical and health services relationships between major depression, depressive symptoms, and general medical illness. *Biol Psychiatry*. 2003;54(3):216–226.