

# Evaluating the Effectiveness of Cognitive-Behavioral Teletherapy in Depressed Adults

Steve Tutty

Diane L. Spangler

Landon E. Poppleton

Brigham Young University

Evette J. Ludman

Gregory E. Simon

Group Health Cooperative

---

Telephone psychotherapy is an emerging form of delivery of care that has recently demonstrated utility and efficacy for adult depression when provided as an adjunct to antidepressant treatment in primary care trials. This study constitutes one of the initial evaluations of cognitive behavioral therapy–telephone treatment (CBT-TT) as a stand-alone treatment for adult depression in specialty care. Thirty adults initiating psychotherapy for depression at a mental health clinic participated in the trial. The majority of participants (69%) were very satisfied with the 8-session CBT-TT, reduction in depression severity was significant over 3 and 6 months, and 42% of participants were considered recovered at termination. These outcomes closely parallel the findings from an earlier primary care trial, despite specialty care participants beginning treatment with more severe depression and without adjunctive antidepressant medication. These findings suggest that CBT-TT for adult depression is feasible and has potential as a stand-alone treatment. Implementation of this telephone-based delivery approach in primary and specialty care settings is discussed.

---

This study benchmarks outcomes against a community based telephone counseling trial supported by the National Institute of Mental Health RO1 MH51338. Related reports have been published in the *Journal of the American Medical Association*, *General Hospital Psychiatry*, and *Journal of Consulting and Clinical Psychology*.

Address correspondence to Steve Tutty, 999 3<sup>rd</sup> Avenue, Suite 2100, Seattle, WA 98104.; e-mail: [steve.tutty@freeclear.com](mailto:steve.tutty@freeclear.com).

0005-7894/09/229-236/\$1.00/0

© 2009 Association for Behavioral and Cognitive Therapies. Published by Elsevier Ltd. All rights reserved.

MAJOR DEPRESSION IS ONE of the most common mental health disorders seen and treated in primary and specialty care settings (Ormel et al., 1994) and is the leading cause of disability worldwide (Murray & Lopez, 1996). When depressed adults initiate treatment, less than half receive recommended levels of pharmacotherapy (Katon, VonKorff, & Lin, 1995; Simon, VonKorff, Rutter, & Wagner, 2000; Wells, Katon, Rogers, & Camp, 1994) or even follow through on their first psychotherapy appointment (Horvitz-Lennon, Normand, Frank, & Goldman, 2003). Several researchers have attempted to address this disparity with highly structured collaborative care programs consisting of expert-led psychotherapy and pharmacotherapy management (Katon et al., 1996; Schulberg, Katon, Simon, & Rush, 1998; Unutzer et al., 2002). These collaborative programs significantly improve care and outcomes among depressed research participants consistent with guideline recommendations (Depression Guideline Panel, 1993), yet the resources, costs, and treatment barriers (e.g., stigma, transportation, provider expertise, out-of-pocket expenses) appear to limit the implementation of these collaborative programs in everyday practice (Katon et al., 2002; Lave, Frank, Schulberg, & Kamlet, 1998; Sirey et al., 2001; VonKorff et al., 1998).

One emerging model that sidesteps many of the collaborative care treatment barriers is telephone counseling. Several trials have evaluated the feasibility

and efficacy of providing psychotherapy by telephone for depressed patients as an adjunct to pharmacotherapy (Hunkeler, Meresman, & Hargreaves, 2000; Ludman, Simon, Tutty, & VonKorff, 2007; Lynch, Tamburrino, & Nagel, 1996; Oslin et al., 2003; Simon et al., 2000; Tutty, Simon, & Ludman, 2000). When compared to in-person collaborative care models (Katon et al., 1995; Schulberg et al., 1998; Unutzer et al., 2002), telephone interventions appear to cost significantly less and generate higher participation rates (Hunkeler et al., 2000; Lynch et al., 1996; Oslin et al., 2003; Tutty et al., 2000) and near equivalent reductions in depressive symptoms during acute phase treatment (Ludman et al., 2007; Simon et al., 2004).

Of the few studies that have examined the use of telephone-based cognitive-behavioral therapy (CBT) for depression, nearly all have evaluated its acceptability and efficacy as an adjunct to antidepressant treatment in primary care rather than as a stand-alone treatment. The one exception is a recent CBT intervention evaluated by [Mohr and colleagues \(2005\)](#) for adults with multiple sclerosis presenting with a depressive disorder. In this randomized trial, eligible patients received a 16-week telephone CBT program or a nonspecific 16-week telephone emotion-focused (EF) program administered by doctoral-level psychologists. Attrition was very low (5.5%), and patients receiving CBT experienced significant reductions in clinician-rated depression severity, compared to EF patients at 8 and 16 weeks. What remains unclear is how CBT telephone therapy (CBT-TT) may be accepted as a stand-alone treatment among adults seeking psychotherapy. The current study sought to test the feasibility and effectiveness of a stand-alone, eight-session CBT-TT program for depression and to benchmark outcomes against a previous phone counseling trial combined with pharmacotherapy.

## Method

### PARTICIPANTS

Thirty nonpsychotic, nonbipolar depressed outpatient adults (ages 18 to 65) seeking treatment for depression at a mental health clinic were enrolled. Eligible adult clients were required to meet the following eligibility criteria during a baseline interview with the study therapist: no psychotherapy visit to a specialty mental health provider in the past 30 days (to exclude patients already receiving active psychotherapeutic treatment), no antidepressant prescription in the 180 days prior to assessment, no diagnosis of bipolar disorder or psychotic disorder in the past 2 years, no emergent clinical needs (e.g., immediate risk of harm to self or

others), and no depressive symptoms below a mild threshold (i.e., Symptom Checklist Depression score of 1.0 or greater).

### RECRUITMENT

Intake and triage personnel at an outpatient mental health clinic referred persons seeking treatment for depression to the study therapist over the course of 12 months. The study therapist was a doctoral student in clinical psychology. Once referred, the study therapist described the nature of the CBT-TT program and assessed client interest in participating. If interested, clients were required to meet inclusion criteria previously described. Once enrolled, clients who received CBT-TT were free to seek any other type of additional care over the course of study treatment. No additional services were provided, but no services normally available were withheld. Clients choosing not to participate in the telephone counseling program were free to receive care by the study therapist or other available clinicians, in-person and as needed.

### OUTCOME ASSESSMENTS: BASELINE

Study participants were evaluated at baseline for a current depressive disorder by the study therapist with the Structured Clinical Interview for DSM-IV (SCID; [First, Spitzer, & Gibbon, 1997](#)), which has good to excellent reliability estimates (.57-.80) for DSM-IV disorders ([Zanarini et al., 2000; Zanarini & Frankenburg, 2001](#)), as well as very good validity (.80) estimates relative to depressive disorders ([Zimmerman, Sheeran, & Young, 2004](#)). Severity of depression was evaluated at baseline with the 20-item depression subscale of the Symptom Checklist-90 (SCL-90; [Derogatis, Rickels, Uhlenhuth, & Covi, 1974](#)), which has served as a standard outcome measure of severity of depression in several randomized trials for adult depression in primary care settings ([Katon et al., 1996; Schulberg et al., 1998; Simon et al., 2000; Tutty et al., 2000](#)). Previous research with the SCL-20 in depression trials has supported the following severity estimates: 0.0 to 0.75 = remission; greater than 0.75 to 1.5 = mild depression; greater than 1.5 to 2.0 = moderate depression; and greater than 2.0 = severe depression ([Katon et al., 1996; Lynch et al., 1996; Simon et al., 2000, 2004](#)).

### OUTCOME ASSESSMENTS: 3 AND 6 MONTHS

Approximately 3 and 6 months after the baseline evaluation, study participants were contacted by phone by assessors who administered the current depression module of the SCID, the 20-item SCL depression scale, questions about visits and care initiated for depression outside the study, and

Likert-type items assessing satisfaction with telephone counseling.

#### ASSESSORS

Assessors were senior undergraduate psychology students who were trained in the use of the noted assessment instruments. Prior to conducting follow-up interviews, research assistants were required to meet a standard of .90 or higher interrater reliability with the study therapist. Prior studies have found nearly identical results for *telephone* and in-person *assessment* of current symptom severity for the two measures used in the current study (Simon, Von-Korff, & Revicki, 1993; Simon, Revicki, & Grothaus, 1998). Other studies uniformly support the reliability and validity of phone assessment in similar populations (Fenig, Levav, Kohn, & Yelin, 1993; Wells, Burnam, Leake, & Robins, 1988).

#### CBT-TT

The design of the CBT-TT protocol was based on earlier telephone CBT trials showing efficacy (Simon et al., 2004; Tutty et al., 2000) and durability (Ludman et al., 2007). The CBT-TT protocol consisted of eight, 30-minute core sessions delivered weekly, followed by two, 30-minute booster sessions delivered at 30-day intervals thereafter. The core content of the sessions focused on psychoeducation and cognitive-behavioral experimentation in a context strongly influenced by motivational interviewing, a therapeutic approach designed to help individuals explore and resolve ambivalence about behavior change in a nonconfrontational manner (Miller & Rollnick, 1991; Rollnick & Miller, 1995). A more detailed description of the CBT-TT protocol is provided by Tutty and colleagues (2005).

#### DATA ANALYSES

Primary analyses examined the feasibility and acceptability of CBT-TT, including participation, maintenance of contact, mean session time, and lag between sessions. Further, mean SCL depression scores were evaluated at 3- and 6-month follow-up using paired sample *t*-tests. The percent of patients manifesting reliable and significant changes in SCL scores (cut-off SCL score set at 0.5) was evaluated by criteria set forth by Jacobson and colleagues (Jacobson & Truax, 1991). Secondary analyses evaluated the proportion of patients experiencing a 50% reduction in SCL score (a standard measure for assessing treatment response in pharmacotherapy trials) and the proportion meeting SCID criteria for major depression at follow-up. Analyses of antidepressant treatment received, as measured by follow-up questionnaires, evaluated the proportion

of participants (via Pearson chi-square) utilizing antidepressant medication across acute treatment. Satisfaction with care was measured by two items, based on a 7-item continuous rating (very satisfied – very dissatisfied) and reported by descriptive proportions. The cost of the intervention program was estimated using actual personnel costs (including standard fringe benefit and overhead cost rates) observed in this specialty care setting.

#### BENCHMARKING

In order to reflect how the real-world outcomes of the CBT-TT trial compare to telephone counseling delivered in a research setting, we present outcomes from an earlier randomized controlled trial conducted by Simon and colleagues (2004). This trial evaluated the efficacy of adjunctive cognitive behavioral telephone counseling among 600 depressed adults initiating antidepressant treatment.

As performed in previous benchmarking trials (Stuart, Treat, & Wade, 2000; Wade, Treat, & Stuart, 1998), both the magnitude and maintenance of clinical progress (i.e., severity of depression as measured by the SCL-20) from pretreatment to follow-up periods was evaluated (via independent samples *t*-tests) among this specialty care sample and compared to mean SCL outcomes from a previous combined pharmacotherapy-CBT-TT trial (Simon et al., 2004) at identical time points (i.e., baseline, 3, and 6 months). In addition, the proportion of participants in each trial experiencing a 50% reduction in SCL score was reported via descriptive proportions. Finally, satisfaction with care was examined across these two groups at baseline and at the completion of the core telephone counseling program.

## Results

#### SAMPLE CHARACTERISTICS

Sixty-eight adults initiating treatment for depression were referred to the study over the course of 14 months. Prior to the eligibility assessment, 23 adults (34%) declined to participate in the telephone counseling program. The majority of the patients refusing telephone treatment ( $n=21$  or 91%) indicated a preference for receiving in-person care, whereas the others ( $n=2$  or 7%) indicated they would not be able to commit to in-person or telephone therapy.

The remaining group ( $n=45$ ) participated in the eligibility assessment. Of this group, 15 adults were excluded for the following reasons: 7 presented with mild to remitted depressive symptoms (SCL score less than 1.0); 6 had received treatment from a mental health provider during the past 90 days; and

2 had received a diagnosis of bipolar disorder during the past 2 years. A total of 30 adults were found eligible and agreed to participate in the CBT-TT treatment.

Over the course of 3 months, these 30 adult participants received CBT-TT following their in-person eligibility assessment. All (100%) completed the 3-month telephone follow-up assessment, and 26 (87%) completed the 6-month telephone follow-up assessment. Those completing and not completing the 6-month assessment did not differ significantly in age ( $F[1, 28]=0.81, p=.375$ ); sex,  $\chi^2 [1]=0.37, p=.542$ ; or baseline depression score,  $F[1, 24]=0.58, p=.452$ ). Baseline characteristics of study participants are displayed in Table 1, along with similar information from the Simon et al. (2004) benchmark sample. As shown in Table 1, there were notable differences between the current sample and the benchmark sample across age, race, marital status, and education. In particular, the average severity of depression at baseline was lower among participants treated in the benchmark sample than those in the current sample (1.51 [mild - moderate

depressive severity] vs. 2.48 [moderate - severe depressive severity]).

#### TREATMENT COMPLETION RATES IN CBT-TT

All participants in CBT-TT completed at least one telephone contact; 90% ( $n=27$ ) completed at least four sessions, and 77% ( $n=23$ ) completed at least eight telephone sessions (see Table 1), including a self-care plan. In terms of maintaining contact with the telephone counselor following acute treatment (at least seven telephone sessions), 21 (70%) participants completed two booster contacts with their telephone counselor within 90 days, which was fairly consistent with the benchmark sample (66%).

In addition, 69% of CBT-TT patients were “very satisfied” with treatment at the 6-month follow-up. These participation and feasibility outcomes were slightly higher than for participants in the Simon et al. (2004) benchmark sample (69% vs. 59%, respectively), which may reflect the fact that patients in the current study experienced twice the reduction in severity of depression from baseline to

Table 1  
Baseline Characteristics of Telephone Counseling Participants

	Telephone Counseling Participants, Current sample ( $N=30$ )	Telephone Counseling Participants, Simon et al., 2004 ( $N=198$ )
Age ( $M, SD$ )	33.1 (12.1)	44.2 (15.8)
Female ( $N, \%$ )	20 (67%)	146 (74%)
Ethnicity ( $N, \%$ )		
White	27 (90%)	157 (79%)
African American	1 (3%)	29 (15%)
Hispanic	2 (7%)	4 (2%)
Asian	0	7 (3%)
Native American	0	1 (1%)
Marital status ( $N, \%$ )		
Single	12 (40%)	52 (26%)
Married	10 (34%)	87 (44%)
Divorced/separated	8 (27%)	39 (20%)
Cohabiting	0	13 (7%)
Widowed	0	7 (3%)
Educational Attainment ( $N, \%$ )		
High School or Less	10 (34%)	39 (20%)
Some College	18 (60%)	90 (45%)
College Degree	1 (3%)	36 (18%)
More than College Degree	1 (3%)	33 (17%)
Taking Antidepressant at First Contact ( $N, \%$ )	0 (0%)	178 (90%)
SCL20 Depression Score ( $M, SD$ )	2.42 (0.57)	1.51 (0.58)
Completing one session ( $N, \%$ )	30 (100%)	184 (96%)
Completing at least four sessions ( $N, \%$ )	27 (90%)	167 (84%)
Completing at least seven sessions ( $N, \%$ )	23 (77%)	125 (63%)
Completing at least two booster sessions in 90 days following core treatment	21 (70%)	130 (66%)
Self-rated “very satisfied” with telephone depression treatment at 6 months ( $N, \%$ )	15 (69%)	101 (59%)

6 months. The average session duration among CBT-TT participants was 32.36 minutes ( $SD=8.02$ ), but varied from 21 to 52 minutes. This outcome was fairly consistent with the average session duration of 31.44 minutes ( $SD=9.7$ ) in the Simon et al. (2004) trial.

#### CLINICAL EFFECTS OF CBT-TT

The improvement in severity of depression, as measured by the SCL at 3 and 6 months posttreatment, among both samples is shown in Figure 1. In a repeated-measures model, the CBT-TT participants experienced an average reduction of 1.2 SCL points (i.e., moving from severe-moderate severity to moderate-mild severity) at 3 months and a 0.49 average SCL reduction at 6 months. Both 3- and 6-month improvements in severity of depression were significant ( $p<.001$ ).

The proportion of participants not meeting DSM-IV criteria for a depressive disorder in the current sample (as measured by the SCID) at 3 and 6 months posttreatment was 23.3% ( $n=7$ ) and 50% ( $n=15$ ), respectively. Further, the proportion of patients manifesting reliable changes (Jacobson & Truax, 1991) in SCL scores at treatment's end and at the six-month follow-up was 63% and 88%, respectively. Finally, 42% of the sample was considered recovered (using a SCL cutoff score of 0.5 or less).

When comparing the current study outcomes to the Simon et al. (2004) benchmark sample (see Figure 1), the clinical improvements in SCL score at 6 months was similar (0.77 vs. 0.69,  $p=.42$ ), with little score variation between groups ( $SD=0.55$  vs. 0.50, respectively). However, significant differences in mean SCL scores were detected between these groups at 3 months (1.26 vs. 0.85,  $p=.001$ ). It should be noted that these groups began treatment

at significantly different baseline levels of SCL depressive severity (2.42 vs. 1.51,  $p<.001$ ), with the current sample having higher baseline depression, which could impact the course of recovery.

Further, a large difference existed between the two samples as participants in the benchmark study (Simon et al., 2004) began treatment with antidepressant use, as opposed to CBT-TT alone. However, the use of antidepressant medication did not significantly affect improvements in SCL scores among those receiving CBT-TT in the benchmark study,  $\chi^2(1)=6.3$ ,  $p=.09$ . Likewise, no significant differences were detected in SCL outcomes at 3 months,  $F(1, 28)=0.01$ ,  $p=.922$ , or 6 months,  $F(1, 24)=2.63$ ,  $p=.118$ , among participants in the current study who initiated antidepressant use during CBT-TT treatment ( $n=10$ , 33%) compared to participants receiving CBT-TT only ( $n=20$ , 67%).

The proportion of participants in each sample manifesting a 50% decrease in depressive symptoms (as measured by the SCL) was also assessed at 3 and 6 months posttreatment. These outcomes indicated that 50% ( $n=15$ ) and 67% ( $n=20$ ) of the CBT-TT participants reported this level of improvement in their depressive symptoms, which closely parallel the Simon et al. (2004) sample outcomes at 3 (48%) and 6 (58%) months.

Each telephone session was estimated to cost approximately \$40, or between \$300–\$400 to complete the CBT-TT program. This amount is slightly lower than the cost estimated from the Simon et al. (2004) trial (\$50/session or \$400–\$500 to complete the core program), which likely reflects a pay grade differential between the locations in which each trial was conducted. However, costs of providing this type of care appear below that of traditional office counseling (Lave et al., 1998), which was estimated by Schulberg and colleagues (1996) at \$92/session.

#### Discussion

Approximately two thirds (66%) of adults initiating treatment for depression were initially interested in receiving counseling by telephone, similar to a previous controlled trial that utilized CBT-TT in conjunction with pharmacotherapy (Simon et al., 2004). This level of demand for telephone counseling may reflect some of the unique features of this treatment, such as convenience (e.g., telephone sessions available evenings and weekends versus clinic business hours), direct access (e.g., immediate telephone connection versus arranging transportation, delays in waiting room, etc.), and structured approach (e.g., using a depression care workbook in tandem with their therapist).

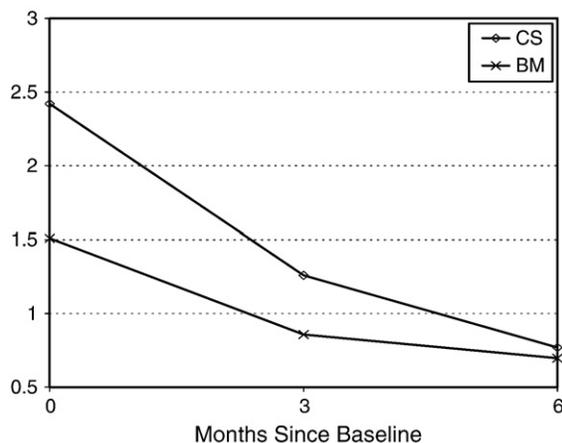


FIGURE 1 Trends in severity of depression between the current sample (CS) and the benchmark sample (BM).

At the same time, participation rates also reflect that many adult participants (approximately one third) preferred face-to-face counseling. This finding may reflect the perceived value of in-person treatment features, such as eye contact, body posture, and touch. These in-person factors can enhance the quality of the therapeutic relationship, which has been shown to improve clinical outcomes (effect size between 0.2–0.3) across a range of therapeutic treatment modalities (Martin, Garske, & Davis, 2000). One interesting line of research would be to evaluate the perceived value of relationship quality and outcomes across telephone and in-person treatment for this population.

With respect to the feasibility of CBT-TT, 77% of eligible participants completed the core program during acute treatment (0–3 months), which was higher than the completion rates (63%) found in our earlier randomized trial (Simon et al., 2004). This may be due to the active and proactive outreach between phone sessions. For instance, in the current study, the therapist sent appointment reminder letters to each participant between sessions and made approximately two to three follow-up attempts to complete each session. In addition, the completion rates may reflect participant autonomy in selecting this mode of treatment or beginning treatment at a moderate severity of depression. Consequently, the current sample may have been more motivated to complete the program.

With regard to outcome, CBT-TT participants appeared to benefit from telephone counseling as found in earlier telephone trials (Mohr et al., 2005; Simon et al., 2004; Tutty et al., 2000). The average reduction in severity of depression among patients in the current study was significant at 3 and 6 months posttreatment, compared to baseline functioning. Even though 34% of the sample did not manifest a 50% or greater improvement by 6 months, 88% made clinically reliable changes (Jacobson & Truax, 1991), and 42% were considered recovered (based on SCL cut off score of 0.5) at the 6-month follow-up.

Although promising, these outcomes are lower than those observed for participants receiving in-person CBT for depression. For instance, Hollon and colleagues (2005) have found that approximately 50% of depressed outpatients receiving in-person CBT achieve remission at treatment termination. With respect to long-term outcome, Gloaguen and colleagues (1998) reported that patients treated with in-person CBT manifested a relapse rate of 29.5%.

Nevertheless, the majority of participants indicated they were very satisfied with the CBT-TT

program. Feedback from CBT-TT participants during follow-up assessment calls indicated that privacy (e.g., delivered in their own home) and flexibility of receiving phone counseling sessions (e.g., phone sessions delivered evening and weekends) were important factors in their level of treatment satisfaction. Given the high level of stigma and travel time associated with traditional office care, particularly among rural residents who have greater barriers to treatment access (Nutting et al., 2002; Rost, Smith, & Taylor, 1993), these satisfaction outcomes suggest that CBT-TT may be an acceptable treatment for depression.

Although the feasibility and clinical outcomes observed in this study are promising, several limitations should be considered in interpreting these results. Primarily, the lack of a true control group limits the generalization of the outcomes detected. In addition, recruitment may have resulted in a selection bias. In this sample, selection bias was quite likely given that one-third of the clients referred for evaluation declined to participate in CBT-TT specifically because they preferred in-person therapy. Consequently, the sample may have consisted of adults who were motivated to receive telephone counseling. Furthermore, participants who presented with symptoms below a mild depression severity (i.e., >1.0 SCL score), had recent mental health treatment, or met criteria for bipolar depression were excluded.

Additional limitations include the fact that therapist variables could not be evaluated, as only one therapist delivered care for the entire sample and the assessors were aware that participants received CBT-TT. In order to systematically evaluate the effectiveness of CBT-TT in routine clinics, multiple CBT-TT therapists would be necessary to evaluate the level of training needed, the fidelity of manualized treatment provided, and any therapist effects. Although the level of training, sophistication of intervention tools, and resources involved in delivering telephone counseling have been explicitly described elsewhere (Tutty et al., 2005), it also remains unclear how traditional office-based therapists may respond and integrate this type of program into their usual practice. Finally, the sample was small ( $N=30$ ) and homogeneous.

Despite these limitations, we found that providing phone counseling in a real-world clinic setting to depressed adults was feasible. The high completion rate, response to treatment, and patient satisfaction appear to suggest that telephone counseling may be an effective treatment alternative for adults seeking mental health care for depression (and possibly other disorders). This may be due to the fact that phone counseling may sidestep many

of the barriers encountered in traditional office psychotherapy, such as social stigma, travel, waiting time, and costs (Nutting et al., 2002; Rost et al., 1993; Schulberg et al., 1996). Given the convenient and accessible features of phone counseling and the potential for improving treatment in a cost-efficient manner, additional research is needed to explore the feasibility and effectiveness of this service in other real-world clinic settings and populations.

## References

- Depression Guideline Panel. (1993). *Depression in primary care: Detection and diagnosis*. Rockville, MD: Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research.
- Derogatis, L., Rickels, K., Uhlenhuth, E., & Covi, L. (1974). The Hopkins Symptom Checklist: A measure of primary symptom dimensions. In P. Pichot (Ed.), *Psychological measurements in psychopharmacology: Problems in psychopharmacology* (pp. 79–110). Basel, Switzerland: Karger.
- Fenig, S., Levav, I., Kohn, R., & Yelin, N. (1993). Telephone versus face-to-face interviewing in a community psychiatric survey. *American Journal of Public Health*, 83, 896–898.
- First, M., Spitzer, R., & Gibbon, M. (1997). *Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), Clinician Version*. Washington, DC: American Psychiatric Press.
- Gloaguen, V., Cottraux, J., Cucherat, M., & Blackburn, I. M. (1998). A meta-analysis of the effects of cognitive therapy in depressed patients. *Journal of Affective Disorders*, 49, 59–72.
- Hollon, S. D., Jarrett, R. B., Nierenberg, A. A., Thase, M. E., Trivedi, M., & Rush, J. (2005). Psychotherapy and medication in the treatment of adult and geriatric depression: Which monotherapy or combined treatment? *Journal of Clinical Psychiatry*, 66, 455–468.
- Horvitz-Lennon, M., Normand, S., Frank, R., & Goldman, H. (2003). "Usual care" for major depression in the 1990s: Characteristics and expert-estimated outcomes. *American Journal of Psychiatry*, 160, 720–726.
- Hunkeler, E. M., Meresman, J. F., & Hargreaves, W. A. (2000). Efficacy of nurse telehealth care and peer support in augmenting treatment of depression in primary care. *Archives of Family Medicine*, 9, 700–708.
- Jacobson, N., & Truax, P. (1991). Clinical significance: A statistical approach for defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59, 12–19.
- Katon, W., Robinson, P., VonKorff, M., Lin, E., Bush, T., Ludman, E., et al. (1996). A multifaceted intervention to improve treatment of depression in primary care. *Archives of General Psychiatry*, 53, 924–932.
- Katon, W., VonKorff, M., & Lin, E. (1995). Collaborative management to achieve treatment guidelines: Impact on depression in primary care. *Journal of American Medical Association*, 273, 1026–1031.
- Katon, W., VonKorff, M., Lin, E., Simon, G. E., Walker, E., Unutzer, J., et al. (2002). Stepped collaborative care for primary care patients with persistent symptoms of depression: A randomized trial. *Archives of General Psychiatry*, 56, 1109–1115.
- Lave, J., Frank, R., Schulberg, H., & Kamlet, M. (1998). Cost-effectiveness of treatments for major depression in primary care practice. *Archives of General Psychiatry*, 55, 645–651.
- Ludman, E., Simon, G. E., Tutty, S., & VonKorff, M. (2007). A randomized trial of telephone psychotherapy and pharmacotherapy for depression: Continuation and durability of effects. *Journal of Consulting and Clinical Psychology*, 5, 257–266.
- Lynch, D., Tamburrino, M., & Nagel, R. (1996). Telephone counseling for patients with minor depression: Preliminary findings in a family practice setting. *Journal of Family Practice*, 44, 293–298.
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 68, 438–450.
- Miller, W., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York: Guilford Press.
- Murray, C., & Lopez, A. (1996). *The global burden of disease*. Cambridge, MA: Harvard University Press.
- Mohr, D. C., Hart, S. L., Julian, L., Catledge, C., Honos-Webb, L., Vella, L., et al. (2005). Telephone-administered psychotherapy for depression. *Archives of General Psychiatry*, 62, 1007–1014.
- Nutting, P. A., Rost, K., Dickinson, M., Werner, J. J., Dickinson, P., Smith, J. L., & Gallovic, B. (2002). Barriers to initiating depression treatment in primary care practice. *Journal of General Internal Medicine*, 17(2), 103–111.
- Ormel, J., VonKorff, M., Ustun, T. B., Pina, S., Korten, A., & Oldehinkel, T. (1994). Common mental disorders and disability across cultures. *Journal of American Medical Association*, 272, 1741–1748.
- Oslin, D., Sayers, S., Ross, J., Kane, V., Ten Have, T., & Conigliaro, J. (2003). Disease management for depression and at-risk drinking via telephone in an older population of veterans. *Psychosomatic Medicine*, 65, 931–937.
- Rollnick, S., & Miller, W. (1995). What is motivational interviewing? *Behavioural and Cognitive Psychotherapy*, 23, 325–334.
- Rost, K., Smith, G., & Taylor, J. (1993). Rural-urban differences in stigma and the use of care for depressive disorders. *Journal of Rural Health*, 9, 57–62.
- Schulberg, H. C., Block, M. R., Madonia, M. J., Scott, C. P., Rodriguez, E., Imber, S. D., et al. (1996). Treating major depression in primary care practice: Eight-month clinical outcomes. *Archives of General Psychiatry*, 53, 913–919.
- Schulberg, H. C., Katon, W., Simon, G. E., & Rush, A. J. (1998). Treating major depression in primary care practice: an update of the Agency for Health Care Policy and Research Practice Guidelines. *Archives of General Psychiatry*, 55, 1121–1127.
- Simon, G. E., Ludman, E., Tutty, S., Operskalski, B., & VonKorff, M. (2004). Telephone psychotherapy and telephone care management for primary care patients starting antidepressant treatment: A randomized controlled trial. *Journal of American Medical Association*, 292, 935–941.
- Simon, G. E., Revicki, D., & Grothaus, L. (1998). SF-36 summary scores: Are physical and mental health truly distinct. *Medical Care*, 36, 567–572.
- Simon, G. E., VonKorff, M., & Revicki, D. (1993). Telephone assessment of depression severity. *Journal of Psychiatric Research*, 27, 247–252.
- Simon, G. E., VonKorff, M., Rutter, C., & Wagner, E. (2000). Randomized trial of monitoring, feedback, and management of care by telephone to improve treatment of depression in primary care. *British Medical Journal*, 320, 550–554.
- Sirey, J. A., Bruce, M. L., Alexopoulos, G. S., Perlick, D. A., Friedman, S. J., & Meyers, B. S. (2001). Stigma as a barrier to recovery: Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. *Psychiatric Services*, 52, 1615–1620.

- Stuart, G. L., Treat, T. A., & Wade, W. A. (2000). Effectiveness of an empirically based treatment for panic disorder delivered in a service clinic setting: 1-year follow-up. *Journal of Consulting and Clinical Psychology, 68*, 506–512.
- Tutty, S., Simon, G. E., & Ludman, E. (2000). Telephone counseling as an adjunct to antidepressant treatment in the primary care system: A pilot study. *Effective Clinical Practice, 4*, 170–178.
- Tutty, S., Simon, G. E., & Ludman, E. (2005). Feasibility and acceptability of a telephone psychotherapy program for depressed adults treated in primary care. *General Hospital Psychiatry, 27*, 400–410.
- Unutzer, J., Katon, W., Callahan, C., Williams, J. W., Hunkeler, E., Harpole, L., et al. (2002). Collaborative care management of late-life depression in the primary care setting: A randomized controlled trial. *Journal of American Medical Association, 288*, 2836–2845.
- VonKorff, M., Katon, W., Bush, T., Lin, E. H., Simon, G. E., Saunders, K., et al. (1998). Treatment costs, cost offset, and cost-effectiveness of collaborative management of depression. *Psychosomatic Medicine, 60*, 143–149.
- Wade, W. A., Treat, T. A., & Stuart, G. L. (1998). Transporting an empirically supported treatment for panic disorder to a service clinic setting: A benchmarking strategy. *Journal of Consulting and Clinical Psychology, 66*, 231–239.
- Wells, K., Burnam, M. A., Leake, B., & Robins, L. N. (1988). Agreement between face-to-face and telephone-administered versions of the depression section of the NIMH Diagnostic Interview Schedule. *Journal of Psychiatric Research, 22*, 207–220.
- Wells, K., Katon, W., Rogers, B., & Camp, P. (1994). Use of minor tranquilizers and antidepressant medications by depressed outpatients: Results from the Medical Outcomes Study. *American Journal of Psychiatry, 151*, 694–700.
- Zanarini, M. C., & Frankenburg, F. R. (2001). Attainment and maintenance of reliability of axis I and Axis II disorders over the course of a longitudinal study. *Comprehensive Psychiatry, 42*, 369–374.
- Zanarini, M. C., Skodol, A. E., Bender, D., Dolan, R., Sanislow, C., Schaefer, E., et al. (2000). The Collaborative Longitudinal Personality Disorders Study: Reliability of axis I and II diagnoses. *Journal of Personality Disorders, 14*, 291–299.
- Zimmerman, M., Sheeran, T., & Young, D. (2004). The Diagnostic Inventory for Depression: A self-report scale to diagnose DSM-IV major depressive disorder. *Journal of Clinical Psychology, 60*, 87–110.

RECEIVED: April 14, 2008

ACCEPTED: March 18, 2009

Available online 6 January 2010