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Telephone-based Mutual Peer Support for Depression: A Pilot Study

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Introduction

Major depression (MDD) is a highly prevalent disorder which is projected to become the leading cause of disability worldwide by 2030.^{1, 2} Despite the availability of evidence-based treatments for depression, approximately one-third of treated patients fail to achieve remission after several medication trials, and 40–60% of patients who achieve remission relapse within a year.³ Like patients with other chronic conditions, patients with continuing depressive symptoms may benefit from proactive, frequent, and supportive contacts to encourage treatment retention and to maintain the motivation and skills necessary to manage their symptoms, increase functional capacity, and achieve valued life goals.^{4, 5} Unfortunately, reimbursement limits and scarce clinician time make frequent contact with patients difficult between face-to-face encounters.

One way to provide frequent supportive contacts for patients coping with longer-term depressive symptoms is through peer support services. Interest in peer support programs has grown in recent years, and peer support initiatives were specifically recommended by the President's New Freedom Commission on Mental Health.⁶ Several studies have established a relationship between social support and improved outcomes among patients with a variety of medical conditions, including depressive disorders. Social support has been shown to be protective against the development of depression among adults facing severe stressors.^{7–9}

Prospective trials among patients with depression have shown peer support interventions to be associated with improvements in depressive symptoms.^{10–18} Additionally, previous studies of telephone-based psychotherapy and care management, which allow for more frequent contacts at a lower cost, indicate that telephone contacts between professional staff and patients are acceptable and effective substitutes for in-person psychotherapy and care management.^{19–22} Thus, preliminary findings suggest that telephone-based peer support

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programs may represent a safe, efficacious way to provide additional support to patients with depression.

However, prior trials of peer support for depression have most often been conducted among selected groups of depressed individuals such as post-partum women or patients with chronic medical illnesses in addition to depression and it is uncertain whether the results of these trials can be generalized to the broader population of depressed individuals.^{11–14, 16} Furthermore, previous intervention trials of peer support for depression frequently relied on professional group leaders or trained “peer mentors” to provide support to “novice” patients. An important mechanism by which peer relationships improve depression may be the act of helping others, in addition to receiving support.^{9, 23–26} Dyadic mutual support may provide more opportunity for reciprocal support than mentored relationships or groups but has not been previously studied among depressed patients.

We conducted a pilot study to evaluate the feasibility of a telephone-based, mutual peer support intervention among patients who experience continued depressive symptoms despite receiving routine mental health care. Specifically, we examined whether pairs of patients with ongoing depressive symptoms would participate in weekly mutual support telephone sessions. We also assessed whether patients were satisfied with the program and found it to be a useful addition to their care, and whether program participation resulted in improvements in patients’ depressive symptoms and overall quality of life.

Methods

This study was approved by the University of Michigan and VA Ann Arbor Health System Institutional Review Boards which oversee research at the three study sites.

Participants

Patients with persistent depressive symptoms were recruited to participate in a 12-week pilot study of the telephone-based peer support intervention. Participants were recruited from an outpatient mental health clinic at a Veterans Affairs medical center, a university outpatient psychiatry clinic, and a county outpatient community mental health center. Potentially eligible patients were initially identified via diagnostic and pharmacy data within electronic administrative data; additional patients were recruited via clinician referral and flyers placed in clinic waiting rooms. To be eligible, patients had to be in treatment at a site mental health clinic and have a current or past diagnosis of a depressive disorder (major depression, dysthymic disorder, bipolar II, or depressive disorder not otherwise specified) with ongoing depressive symptoms or disability as determined by a Beck Depression Inventory II (BDI-II) score > 12 or a Sheehan Disability Scale (SDS) total score > 12 or subscale score > 5. Participants also needed to have a history of at least two antidepressant trials, which could include medications they were currently taking. Patients were excluded if they had active substance dependence, a current or past diagnosis of a psychotic illness or bipolar I, active suicidality, a recent suicide attempt, or a lack of stable telephone access.

Procedures

Prior to enrollment, eligible participants were matched by the research team according to their treatment site, demographics and treatment information. Specifically patients were paired according to age, gender, and experience with individual and group therapy. Matched participants attended an in-person enrollment meeting where they were able to meet with their partner and complete a 90 minute training session focusing on communication skills and self-management practices. Participants were provided with a peer support manual that outlined the expectations for participants, explained how to contact their peer partner and

study staff and provided information about what to do if their partner expressed suicidal thoughts. The manual also offered suggested topics to help guide conversations between partners, and included a log for future planned calls with their partner.

Participants called a toll-free automated telephone system to connect to their partners so that participants did not have to disclose their personal phone number or incur long-distance charges.^{27, 28} The automated telephone system allowed participants to leave voicemail messages for their partners and initiated reminder calls if the pair did not complete a call in subsequent weeks. The system also recorded frequency and duration of telephone calls but not the content of the conversations.

Following the initial enrollment meeting, study participants were asked to contact their partner at least once a week for 12 weeks using the automated telephone system. As in past studies of peer support for depression where peer interactions have been unstructured or modestly structured, peer interactions in this study were guided only by the provision of optional discussion topics that were designed to facilitate productive conversations within the pair. After weeks 6 and 12, participants attended in-person meetings with study staff so that they could have face-to-face contact with their peer, complete outcome measures, and identify any problems using the system or communicating with each other. A clinical social worker was available to participants throughout the study to address any potential interpersonal difficulties that might arise between partners.

Measures

The primary outcome measures of this pilot study were the acceptability and feasibility of the intervention. These outcomes included measures of the degree to which the participants found the intervention helpful and their level of participation in the intervention. Outcomes were evaluated through the use of surveys, semi-structured interviews and data produced by the telephone platform. Additionally, a study experience survey completed at 12 weeks included items regarding participants' satisfaction with the intervention, perceived social support, self-care behaviors, and the perceived benefits of the service to them and their peer-support partner. Additionally, study staff contacted participants within 2 weeks of completion of the study to complete a qualitative telephone interview asking about their experience and opinions on the intervention. Call data collected through the telephone system were used to assess participants' adherence to the recommended weekly calls. The retention rate during the 12-week intervention was also evaluated.

Depressive symptoms were measured using the Beck Depression Inventory - 2nd Edition (BDI-II), a reliable, validated measure of depression with scores ranging from 0 to 63 and higher scores signifying more severe depression.²⁹ The Sheehan Disability Scale (SDS) measured participants' level of functional impairment across 3 domains, with summation scores ranging from 0–30 and higher scores representing greater overall impairment.^{30, 31} Quality of life was measured using the Quality of Life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q-SF), a scale whose score ranges from 14 to 70 with higher scores representing greater quality of life.^{32, 33} General health-related quality of life was assessed using the SF-12, which includes both physical and mental health subscales each ranging from 0–100, with higher scores reflecting better health-related quality of life.³⁴ Participant self-efficacy was measured with the General Self-Efficacy Scale (GSE). GSE scores range from 10 to 40, with higher scores indicating greater self-efficacy.³⁵

A study-specific health care satisfaction survey, which included items assessing participants' overall satisfaction with mental health care and perceived social support, was also given at baseline, 6 and 12 weeks.

Analyses

Means and frequencies were used to assess the number and characteristics of participants completing the study and participants' ratings of different aspects of the peer support program. Paired t-tests were used to compare differences in pre- and post-intervention scores on depression, quality of life, general health, and self-efficacy with a significance level of $\alpha = 0.05$.

Results

Participant Demographics and Study Completion

Table 1 presents the demographic and clinical characteristics of the study participants. A total of 54 participants (27 pairs) enrolled in the study. Twenty-two participants (40.7%) were recruited from a VA outpatient mental health clinic, while the remaining 32 (59.3%) were drawn from non-VA mental health clinics. The study population was primarily male (63%) with a mean age of 52.4 years. At baseline, the participants' mean SF-12 and BDI-II scores indicate moderate levels of depression and physical and psychological impairment. The vast majority of participants had participated in individual psychotherapy (96.3%) or group psychotherapy (87.0%) prior to study enrollment.

Table 1 also shows differences in participants' demographic characteristics according to study completion status. Thirty-two participants (59.3%) completed the 12-week intervention, while 22 participants (40.7%) either dropped out of the study or were lost to follow-up. Of the 22 participants (11 pairs) who dropped out of the peer-support intervention after enrollment, twenty were from non-VA settings and two were from VA clinics. Four pairs dropped out after the enrollment visit but before the 1st call was completed, 5 pairs dropped out after the first call but before the 6-week follow-up meeting, and 2 pairs dropped out after the 6-week meeting.

Compared to non-completers, participants who completed the intervention were more likely to be male, VA patients, and older. Study completers and non-completers did not differ on baseline measures of depression severity, physical or psychological impairment, or treatment history.

Call Data

Data on participant calls using the telephone system were also evaluated. For the purpose of analysis, calls using the system were defined as completed (talk time of at least 2 minutes) or uncompleted (talk time less than 2 minutes). Participants completing the 12-week study averaged 10.3 (SD: 5.6) completed calls, with a mean call length of 26.8 (14.7) minutes. Study completers averaged an additional 13.9 (6.5) unsuccessful calls during the study period. Participants not completing the study averaged 1.5 (2.0) completed calls with a mean talk time of 30.3 (13.6) minutes and 8.1 (10.3) unsuccessful call attempts prior to dropout.

Participants' Evaluations of the Program

At the end of the 12-week study, 84% of study completers reported that they were satisfied with the peer support calls, with an 80% concordance rate between partners. Seventy-two percent reported feeling comfortable sharing information with their peer partners, and 50% stated that their peer partners helped them solve their problems. Ninety-four percent reported that they would be more satisfied with their health care if a peer support program such as this were routinely available.

Participants also provided qualitative feedback regarding their experiences with the peer support program, and several themes emerged. Multiple participants appreciated the relative

anonymity of the calling system, stating that the program was “more helpful than group therapy because it’s easier to be open and honest over the phone. You don’t feel as afraid of judgment, and you don’t have to censor yourself.” Participants also appreciated the opportunity to speak with their partner as the need arose. As one participant noted, “I liked being able to call whenever I needed some help.” Additionally, several participants enjoyed the chance to speak with someone who had experience with depression, saying that the program was helpful because “it provided someone to talk to, other than family and friends, that can relate and doesn’t just say ‘get over it’.” Another participant “liked the companionship—the ability to meet someone who knows exactly what I’m going through... the camaraderie really opened up channels to extend my social network because I was really isolated before.” Several participants also commented that they were able to share advice and help each other because of their common experiences, which was helpful in itself: “It was really nice that you could be of aid to someone else.”

Participants were also asked to share any negative aspects of the program or ways in which they thought it could be improved. Many of the areas for improvement related to the structure of the telephone calling platform. For example, several participants had difficulty leaving voicemails or preferred less restricted calling hours. Regarding the nature of the program, several participants would have preferred more structure with respect to conversation topics and goal-setting. However, a large number of participants appreciated the free-flowing nature of the program and found it helpful to be able to talk about what was on their minds at the present moment. One participant suggested that it might be helpful to ask participants about their preferences for structure prior to enrollment and match partners based on their conversation preferences.

Changes in Reported Depressive Symptoms and Impairment

Table 2 presents self-report data on depression-related outcomes collected pre-, mid-, and post-intervention from study completers. From baseline to study completion, we observed small but significant improvements in: depressive symptoms as rated by the BDI-II mean change score of -4.2 (95% CI: -7.6, -0.8; $p = .02$); functional disability as rated by the Sheehan Disability Scale mean change score of -1.7 (95% CI: -3.1, -0.2; $p = .02$); overall psychological health as rated by the Mental Health subscale of the SF-12 mean change score of 7.5 (95% CI: 3.9, 11.1; $p < .001$); and quality of life as rated by the Q-LES-Q-SF mean change score of 2.3 (95% CI: 0.2, 4.5; $p = .04$). There were no significant changes on self-report measures of physical health or self-efficacy.

Discussion

In this pilot study, we found telephone-based peer support for depression was acceptable to a majority of participants and was also associated with increased healthcare satisfaction and modest improvement in depressive symptoms, daily functioning, quality of life, and overall psychological health. These results indicate that telephone-based interventions may represent a promising avenue to provide additional support and potentially improve outcomes for a broad range of patients with depression.

Our findings are consistent with prior studies which have found telephone peer support calls to be helpful for a wide variety of chronic health conditions, including depression.³⁶ The intervention we studied was novel in that depressed patients were paired into a mutual support dyad as opposed to a mentor-mentee or “sponsor” relationship. It is important to note that both the quantitative and the qualitative feedback indicate that pairing two currently depressed patients for mutual support is safe, acceptable, and not associated with worsened depressive symptoms. Mutual support confers the advantage of allowing both members to contribute to helping each other, a potentially important component of the

intervention's effectiveness, and alleviates the need to identify or extensively train peer mentors.

A strength of the study was the ability to draw insights from the different study sites and call data as to factors that may relate to successful completion of the intervention. Most participants responded positively to the program, with approximately 60% of enrollees completing the 12-week intervention, an attrition rate only slightly lower than those reported by other studies of group peer support.^{10, 13, 16} Patients who completed the intervention were more likely to be male, older, and recruited from a VA clinic, but in light of our small sample size it was not possible to determine the independent contributions of these factors, and these associations could have several possible explanations. In prior successful studies of peer support interventions, the target population often shared some characteristic or condition, such as post-partum status or a serious medical illness, in addition to depression.^{11–13, 16, 37} Accordingly, it is possible that the shared experience of being a veteran contributed to improved study completion among VA participants, as prior studies have documented the strength of veteran identity among VA patients.³⁸

Call data from the study telephonic platform also provide some insight into successful pairings and study completion. Study completers averaged 10.3 conversations and 13.9 unsuccessful call attempts during the 12-week period, yielding a ratio of 1.3 unsuccessful attempts for every completed conversation. In comparison, non-completers averaged 5.4 unsuccessful call attempts for each successful call prior to dropout. These results indicate that difficulties with scheduling or partner availability may have played a role in partners' decisions to discontinue participation. Interestingly, baseline depressive symptoms or impairment did not differ between completers and non-completers, suggesting that the propensity to fully participate in telephone-based peer support is not influenced by depression severity.

These results must be viewed in light of the study's limitations. Due to limited prior knowledge regarding the acceptability of mutual peer support for depression, for this pilot study we minimized barriers to participation (i.e. no randomization, open recruitment) to determine whether in real world clinical settings the intervention would be feasible and acceptable to interested patients. The lack of a control group, however, means that we cannot say whether patients would have had similar trends for improvement in psychological health and functioning without mutual peer support. Controlled trials are necessary to determine efficacy of the intervention. Also, because we do not know how many patients were approached regarding participation in the study, we are not able to examine characteristics related to initial participation, which is germane to determining the broader acceptability of mutual peer support among depressed patients. The high proportion of veterans in our sample may limit overall generalizability to non-veteran depressed populations, particularly because veterans were more likely to complete the intervention. Due to the inclusion of veterans, our study population also over-represents males and older patients when compared to non-veteran depressed patient populations. The inclusion of both veteran and non-veteran participants, however, is also a strength of the study as the differences in completion rates suggest characteristics within these populations may be important for determining who is best suited for mutual peer support.

Mutual peer support for depressed patients with ongoing symptoms despite prior antidepressant treatment is feasible and acceptable, particularly among veterans. Patients completing 12 weeks of mutual peer support had improvements in depressive symptoms and quality of life and reported improved satisfaction with their overall depression care; however, these findings cannot be attributed to mutual peer support in the absence of a control group. Future research in this area will determine efficacy, inform program

development and implementation, and identify which patients may be most likely to benefit from mutual peer support for depression.

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Table 1

Baseline characteristics by completion status

	All participants (N = 54)	Participants not completing 12-week intervention (N = 22)	Participants completing 12-week intervention (N = 32)	p-value
	N (%)	N (%)	N (%)	
Sex				
Female	20 (37.0)	12 (54.6)	8 (25.0)	0.03
Male	34 (63.0)	10 (45.5)	24 (75.0)	
Site				
VA	22 (40.7)	2 (9.1)	20 (62.5)	<.0001
Non-VA	32 (59.3)	20 (90.9)	12 (37.5)	
Treatment history				
Hx of individual therapy	52 (96.3)	21 (95.5)	31 (96.9)	1.0 ^e
Hx of group therapy	47 (87.0)	17 (77.3)	30 (93.8)	0.11 ^e
Hx of both	46 (85.2)	17 (77.3)	29 (90.6)	0.25 ^e
	Mean (SD)	Mean (SD)	Mean (SD)	
Age	52.4 (11.1)	48.0 (12.2)	55.4 (9.3)	0.03 ^c
Initial BDI Score ^a	24.7 (10.6)	22.6 (11.2)	26.0 (10.1)	0.26 ^d
Initial SF-12 score ^b				
Physical subscore	45.6 (19.8)	49.9 (22.4)	42.8 (17.7)	0.22 ^d
Mental subscore	45.3 (12.0)	47.1 (14.4)	44.0 (10.1)	0.38 ^d

^a n=20 for non-completers;^b n=20 for non-completers, n=30 for completers;^c Wilcoxon rank sum test;^d t-test;^e Fisher's exact test

Table 2

Outcomes for patients completing the pilot study (N=32)

Variable	Baseline M(SD)	6 weeks M(SD)	12 weeks M(SD)	Mean Change (95% CI) *	p-value *
BDI-II	26.0 (10.1)	24.5 (19.0)	22.1 (10.7)	-4.2 (-7.6, -0.8)	0.02
Sheehan Disability Scale	19.2 (7.3)	15.3 (7.7)	17.7 (7.4)	-1.7 (-3.1, -0.2)	0.02
SF-12 subscore—Physical	42.8 (17.7)	43.4 (18.6)	38.7 (13.9)	-1.8 (-5.0, 1.3)	0.25
SF-12 subscore—Mental	44.0 (10.1)	49.6 (13.5)	51.2 (11.0)	7.5 (3.9, 11.1)	<.001
Q-LES-Q-SF	38.1 (8.2)	41.6 (10.0)	40.0 (8.2)	2.3 (0.2, 4.5)	0.04
Self-Efficacy	25.7 (5.3)	27.3 (5.3)	26.6 (5.1)	1.0 (-0.6, 2.7)	0.21

* Paired t-tests from Baseline to 12 weeks used for all comparisons.