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A Problem-Solving Intervention for Hospice Family Caregivers: A Randomized Clinical Trial

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Abstract

OBJECTIVES: Family caregivers of hospice patients have multiple needs as they try to cope during a stressful time. Translatable interventions effective in improving caregiver outcomes are greatly needed. Our objective was to assess the impact of a problem-solving intervention (called Problem-Solving Intervention to Support Caregivers in End-of-Life Care Settings [PISCES]) to support hospice caregivers on caregiver quality of life and anxiety, and compare its effectiveness delivered face to face and via videoconferencing.

DESIGN: In this 4-year randomized clinical trial, caregivers were randomly assigned to a group receiving standard care with added “friendly calls” (attention control [AC] group), a group receiving standard care and PISCES delivered face to face (F2F), or a group receiving standard care and PISCES delivered via videoconferencing (VC).

SETTING: Home hospice.

PARTICIPANTS: A total of 514 caregivers participated (172 in AC, 171 in F2F, and 171 in VC). Caregivers were predominantly female (75%); mean age was 60.3 years.

INTERVENTION: PISCES includes a structured curriculum delivered in three sessions and motivates caregivers to adopt a positive attitude, define problems by obtaining facts, set goals, and generate and evaluate solutions.

MEASUREMENTS: Quality of life was measured by the Caregiver Quality of Life Index-Revised; anxiety was measured by the Generalized Anxiety Disorder 7-Item. Other measures included the Caregiver Reaction Assessment scale, demographic data, and an exit interview.

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Author Contributions: George Demiris conceptualized and designed the study, oversaw data collection, analysis, and interpretation of data. Debra Parker Oliver and Karla Washington contributed to study design, data analysis, and interpretation of data. Kenneth Pike oversaw data analysis, data management, and contributed to interpretation of data.

Conflict of Interest: The authors have no conflicts of interest.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article.

RESULTS: Compared with AC, caregivers in the F2F condition had postintervention reduced anxiety (-1.31 [95% confidence interval [CI] = -2.11 to $.50$]; $p = .004$) and improved social (.57 [95% CI = $.19$ -.95]; $p = .01$), financial (.57 [95% CI = $.21$ -.93]; $p = .004$), and physical quality of life (.53 [95% CI = $.19$ -.87]; $p = .01$). There were no differences in caregivers in the VC condition compared with the AC condition.

CONCLUSION: The PISCES intervention improves caregiver outcomes and is effective when delivered in person. How to integrate technology to reduce the intervention delivery cost warrants further investigation.

Keywords

caregiving; hospice; Problem-Solving Therapy

Recent scientific evidence highlights the importance of understanding the risks and unmet needs of informal caregivers who care for patients at the end of life.¹ A plethora of research has shown informal family caregivers are at greater risk for depression, deteriorating physical health, financial difficulties, and premature death compared with noncaregivers.^{2,3} These health risks are compounded by the fact that caregivers are less likely to engage in preventive health behaviors or otherwise attend to their own health needs.

A 2015 Institute of Medicine report identified challenges that hinder high-quality care near the end of life including a mismatch between the services patients and families need and the services they obtain, and a lack of social services for families.⁴ Caregivers seek regular contact with hospice providers.⁵ Nearly 25% of hospice patients and families report the need for improved communication and emotional support.⁶ A systematic literature review⁷ identified very few interventions specifically targeting caregivers in end-of-life care, and only two were tested within a randomized control trial.⁷ Translatable interventions effective in supporting coping and improving the caregiving experience are greatly needed.

One intervention that has shown potential to support individuals during stressful times is Problem-Solving Therapy (PST). It is a brief, structured cognitive-behavioral treatment that teaches people problem-solving coping skills to help them deal with major negative life events as well as daily problems that are making them anxious or depressed.⁸

PST is based on the relational/problem-solving model of stress by D’Zurilla and Nezu.⁹ This model integrates Lazarus’s relational model of stress¹⁰ whereby a person in a stressful situation significantly influences the quality and intensity of stress responses through two major processes: cognitive appraisal and coping.¹¹ PST focuses on behavioral change principles by addressing skills such as problem definition and formulation, and decision making.⁹ Researchers have applied PST to various patient populations (eg, adolescents with human immunodeficiency virus,¹² impaired mobility patients,¹³ and adolescents after traumatic brain injury [TBI]¹⁴). When it comes to family caregivers, PST has been found effective in decreasing anxiety and/or depressive symptoms for caregivers of physically or cognitively impaired adults¹⁵ and patients with dementia,¹⁶ and caregivers of children with TBI.¹⁷

We tailored a brief PST intervention for hospice caregivers called Problem-Solving Intervention to Support Caregivers in End-of-Life Care Settings (PISCES). Customization included development of a hospice-focused curriculum in a three-visit protocol to address the short length of hospice enrollment. In recognition of the geographic barriers in home hospice, we sought a translational delivery platform using web-based videoconferencing technology. This approach recognized the importance of nonverbal communication while bridging geographic distance and reducing cost. Feasibility of videoconferencing for the delivery of PISCES had been found acceptable, easy to use, and convenient for caregivers.^{18–22} Untested was if the video-conferencing platform preserves the effectiveness of the intervention.

In this study we assessed the impact of the PISCES intervention on caregiver quality of life and anxiety while comparing the effectiveness of the intervention delivered face to face and via videoconferencing. The underlying hypotheses are (1) caregivers having received the PISCES intervention (in person or via videoconferencing) will report higher levels of (covariate-adjusted) postintervention quality of life and lower levels of anxiety compared with caregivers in an attention control (AC) group; and (2) caregivers in the videoconferencing PISCES group will report similar levels of (covariate-adjusted) postintervention quality of life and anxiety as compared with caregivers in the face-to-face PISCES group.

METHODS

Overview

The study was designed as a three-arm randomized clinical trial. Hospice caregivers were randomly assigned to (1) a group receiving standard hospice care plus “friendly calls” (AC), (2) a group receiving standard hospice care with PISCES delivered face to face (F2F), or (3) a group receiving standard hospice care with PISCES delivered via videoconferencing (VC).

Setting and Participants

Two large hospice agencies in the Pacific Northwest participated in the project. Inclusion criteria for caregivers were the following:

- A family/informal caregiver of a hospice patient of one of the participating hospice agencies
- 18 years or older
- Access to a standard phone line or computer with Internet access
- Sufficient hearing for telephone or Internet conversations as assessed by the research staff
- Short Portable Mental Status scores greater than 7 (ie, less than three errors)²³
- Proficient in English with at least a sixth-grade education

Caregivers were asked by the admissions hospice staff if they were interested in being contacted by the team to learn about the study. A researcher contacted caregivers to screen for eligibility and schedule an in-person consent visit.

Intervention

Two interventionists (one psychologist and one social worker) employed by our team received 25 hours of PST training.

Attention Control Group

The AC group received standard hospice services and the same psychometric assessment and number of calls as subjects in the intervention groups. During these calls, caregivers were encouraged to discuss any concerns, and the interventionists refrained from giving advice, teaching skills, or providing solutions. This “friendly visit” intervention was designed to control for the nonspecific aspects of treatment, that is, passage of time, amount of contact, and general support of an empathic and skilled professional.

Intervention Groups F2F and VC

The three-session protocol for PISCES, detailed elsewhere,¹⁸ involves five steps: adopting a positive attitude, defining the problem, creating alternatives, predicting consequences, and trying a solution. Session 1 (initiated near 5 days following hospice admission) focuses on the first two steps, the second session (day 11) the next two, and the last session (day 18) covers the final step. Each session lasts approximately 45 minutes. Caregivers in the F2F group interacted with the interventionist in person; the VC group interacted via videoconferencing.

This timeline was calculated based on average length of stay for our participating hospice agencies and at the national level, PST recommendations⁹ and previous work on cognitive-behavioral interventions in hospice.²⁴ However, this was only a guideline, and the actual timing was tailored to the individual caregiver schedule.

Data Collection and Outcomes

The following sections describe the instruments administered to study subjects.

Caregiver Quality of Life Index-Revised—The Caregiver Quality of Life Index-Revised (CQLI-R), a measure of caregivers’ quality of life (QOL), includes four dimensions: emotional, social, financial, and physical.²⁵ This four-item instrument was designed specifically for hospice caregivers, and its reliability and validity have been established.²⁵ Cronbach α for the CQLI-R was .769.

Generalized Anxiety Disorder—The Generalized Anxiety Disorder 7-Item (GAD-7) is a brief, valid, and efficient tool for screening for anxiety and assessing its severity in clinical practice and research.²⁶ The GAD-7 was tested and demonstrated high levels of reliability and validity (with Cronbach α of .92).²⁶ The total score is calculated by assigning scores of 0 to 3 for each of the seven items. This instrument was used widely to assess anxiety of

informal caregivers in hospice^{27,28} and serves as a valid screening and continuous assessment tool given its brevity that reduces respondent burden.²⁶

Problem-Solving Inventory—The Problem Solving Inventory (PSI) is a 35-item Likert-type inventory that serves as a measure of an individual's perceptions of their problem-solving behavior and attitudes.²⁹ The total score is used as an overall index of problem-solving ability. Reliability and validity of this instrument have been documented extensively (Cronbach α reported at .85).

The Caregiver Reaction Assessment Scale—The Caregiver Reaction Assessment (CRA) scale is a 24-item instrument designed to assess specific aspects of the caregiving situation, including both negative and positive dimensions of caregiving reactions.³⁰ Cronbach α varies between .62 and .83 for the separate subscales, indicating sufficient internal consistencies.³⁰

Demographic Data—Standard demographic data were collected on caregivers including age, sex, nativity, education level, marital status, occupation, and diagnosis of patient. Furthermore, if the patient died during the subject's participation, date of death was recorded (to allow for calculation of timing of death in the context of subject's days in the study).

An exit interview was conducted to assess participants' perceptions of the intervention and its utility, and of videoconferencing for those in the VC group (Supplementary Table S1). Exit interviews were conducted by another member of the team to reduce bias and audio-recorded with a random subset (30% of interviews) transcribed. Two members conducted a deductive thematic analysis to identify perceived benefits and challenges with the intervention and with videoconferencing (for those in the VC group).

Figure 1 demonstrates the timeline for data collection. One last follow-up assessment over the phone took place approximately 40 days after the exit interview. Most caregivers were in the bereavement phase at that point in time (and this is why assessment focuses at that follow-up on problem-solving inventory, anxiety, and QOL but not the caregiving-related experience); however, the purpose was to assess the long-term impact of the intervention.

Randomization and Blinding

A block randomization approach was used to ensure that treatment groups were not imbalanced with respect to time of the year as season (eg, holidays) could have an effect on some of the measures. Randomization was stratified by hospice agency. Group assignment was revealed following the identification of problems and challenges, and consent for participation was obtained. Instruments were administered over the phone by a separate research assistant who was blinded to the assignment.

Sample Size

The study was designed to have 80% power ($\alpha = .05$, two sided) to detect effect sizes of .5 standard deviations, equivalent to 3 points on the CQLI-R, the minimal difference of clinical significance, for the F2F and VC treatment effects. Recruitment greatly exceeded our

expectations, so there was greater than 90% power for this effect size at exit and 40-day follow-up.

Statistical Analysis

The purpose of this study was to compare differences between treatment groups in terms of caregiver anxiety and QOL over the course of the intervention. Differences between groups in baseline characteristics were compared using one-way analysis of variances for continuous variables and χ^2 tests for categorical variables. We also compared attrition among caregivers using *t* tests and χ^2 tests. Specifically, analyses were conducted on baseline demographic characteristics, as well as baseline outcome measures, to determine whether participants who completed all phases of data collection were initially different when compared with persons who did not complete the entire longitudinal follow-up. For the study outcomes, we used multivariate linear regression models with robust standard errors. For each of the study outcomes, the corresponding preintervention score, hospice agency, a factor indicating assessment type (baseline, exit interview, or follow-up assessment), patient diagnosis, and whether the caregiver's patient had died were used as primary adjustment covariates. The possibility of a change over time in the difference in effectiveness between treatments was explored by including a time by group interaction in the models. The primary goal of the analyses was pairwise comparisons between the three treatment groups. A Bonferroni adjustment was used to account for the three pairwise comparisons. Data were analyzed using the Stata statistical package, v.13.

RESULTS

Study Participants

A total of 2048 caregiver referrals were received by the study team; of these, 186 caregivers were ineligible for the study, 317 unable to contact, and 1031 declined to participate. This led to a total number of 514 caregivers who participated in the study (AC, *n* = 172; VC, *n* = 171; and F2F, *n* = 171). Figure 2 displays the study's Consolidated Standards of Reporting Trials (CONSORT) diagram. Caregivers ranged in age from 19 to 100 (mean age = 60.3 y), were predominantly female (75%), and mostly adult children (55%) or spouses/partners (27%) of hospice patients. Table 1 includes the characteristics of caregivers and patients.

Caregivers assigned to the three intervention groups were similar in sex, age, race/ethnicity, relationship to patient, residing with patient, bereavement at consent, referring agency, employment, caregiving amount and duration, QOL, and anxiety. There were more patients with diagnoses of cancer and cardiovascular disease in the AC group, and dementia patients were more prevalent in the F2F group (*P* = .005). At baseline, 225 (44%) of the caregivers were bereaved as were the majority (79%) for whom data were available (*n* = 444) at the 40-day follow-up.

Attrition

Of the 514 caregivers, 460 (89%) completed the exit assessment, and 416 (81%) completed the 40-day follow-up telephone survey. Attrition during active treatment (0–1 mo) was significantly lower for caregivers in the F2F (7.0% [12/171]) and AC 7.0% [12/172] groups

compared with the VC group 17.5% [30/171], $P = .001$, primarily because caregivers could not be contacted or their loved one had died. Total attrition over 3 months did not differ significantly between groups (AC, 17.4% [30/172]; F2F, 17.5% [30/171]; VC, 22.2% [38/171]; $P = .44$). When demographic characteristics were compared, those without follow-up data were slightly younger (57.7 y [95% confidence interval [CI] = 54.7–60.6] vs 60.9 [95% CI = 59.8–62.1]; $P = .02$); more likely to reside with their loved one (58.2% [57/98] vs 45.5% [189/416]; $P = .02$); were less likely to have been providing care longer than 1 year (56.1% [55/98] vs 74.0% [308/416]; $P < .001$); and were more likely to have been caregiving more than 20 hours/week (66.3 [65/98] vs 54.3% [226/416]; $P = .03$).

Primary Outcome

Compared with AC, caregivers in the F2F condition had postintervention reduced anxiety (−1.3 [95% CI = −2.1 to −.5]; $P = .004$), and improved social (.6 [95% CI = .2–1.0]; $P = .01$), financial (.6 [95% CI = .2–.9], $P = .004$), and physical QOL (.5 [95% CI = .2–.9]; $P = .01$). Results were adjusted for referral agency, patient diagnosis, and bereaved status. There were no differences in caregivers in the VC condition compared with the AC condition. Table 2 provides the anxiety and caregiver QOL values at baseline and exit from the intervention. Effect sizes for preintervention to follow-up were moderate to large (Anxiety .24 [.16–.30 CI]; QoL-physical .29 [.21–.35 CI]; QoL-social .17 [.10–.22 CI]; QoL-emotional .31 [.23–.37 CI]; QoL-financial .29 [.21–.30 CI]).

Internal consistency for the measures was high (Cronbach α for CQLI-R = .75, GAD-7 = .88, PSI = .78, and CRA = .83). Caregivers took about 1 month (mean = 34.6 d; standard deviation = 18.2; median 28) to complete the intervention. Intervention duration in the F2F group (mean = 36.8 d) and the VC group (mean = 37.5 d) were comparable and slightly higher than in the AC group (mean = 29.9 d); time to complete the intervention was not related to outcomes.

Secondary Outcomes

A total of 300 exit interviews were conducted with participants in the intervention groups (159 in the F2F group, 141 in the VC group). A random set of 100 interviews were transcribed (53 in the F2F group, 47 in the V2C group). Average duration of the interviews was 22 minutes. Participants embraced the intervention, describing it as a “structured guide” to navigate challenges and brainstorm for effective solutions. Identified benefits included the availability of tools and templates necessary to brainstorm and the opportunity to reflect on challenges. Several participants commented on the intervention as a way to combat feelings of isolation. All participants agreed that PISCES should become a standard service of hospice care, and some commented on the value of getting exposed to it earlier in the caregiving trajectory to fully maximize benefits. Subjects in the VC group found videoconferencing an appropriate platform. In many cases (62% of transcribed interviews), participants felt that they would not have benefited more had they interacted with the interventionist in person, with some (16%) even stating a preference for videoconferencing because of their busy schedule.

DISCUSSION

To our knowledge this is the largest clinical trial with hospice caregivers to date. PISCES was found very effective when delivered in person. Compared with AC, caregivers in the F2F condition had postintervention reduced anxiety and improved QOL. These findings are statistically but also clinically significant (for GAD-7 a reduction of more than 1 point on the 7-point scale is clinically meaningful³¹; the same for a reduction of .5 or more on each of the subscales of the CQLI-R³²). The intervention for the VC group was as effective as the AC group. Participants at the exit interview appreciated the convenience and ease of use of the videoconferencing delivery, and caregivers commented on the benefit of having a meaningful conversation, hearing and seeing each other “without yet another visitor in the home.”

However, even though the videoconferencing platform was embraced by participants at exit interviews, it is noteworthy that the videoconferencing mediated intervention was not as effective as the F2F group. Although a direct comparison of in-person and videoconferencing sessions has not been examined extensively in hospice, there are studies comparing these two modalities for other populations. Two randomized studies^{33,34} reported no significant differences for symptoms of anxiety and depression between psychotherapy patients receiving in-person and videoconferencing sessions. Mitchell et al³⁵ found in a comparison of in-person and videoconferencing treatment for patients with eating disorders that the in-person group experienced greater reduction in depressive symptoms. Backhaus et al³⁶ conducted a systematic review of videoconferencing psychotherapy and identified challenges in the sample size of comparison studies calling for more studies with experimental design. In our study we hypothesize that findings for the videoconferencing group may be due to the lack of initial personal rapport and intimate F2F contact with the interventionist. Although overall the technical quality of the videoconferencing sessions was very good or excellent, in some instances there were technical difficulties.

The use of an AC group with a vulnerable population like hospice caregivers may not be ideal because the introduction of “friendly calls” to this population may be an intervention in and of itself, which could further explain why the AC group performed comparably with the VC group. A combination of platforms whereby a hybrid approach is pursued (eg, first session in person, follow-up sessions via video-conferencing) needs to be investigated as a cost-effective solution (especially in remote and rural areas). Study limitations include recruitment in only one geographic region (the Pacific Northwest) and a sample with limited racial diversity (although comparable with national hospice census data).

Translation of this study into practice requires an organization to consider available resources, costs, and adjustments to clinicians’ workflow. All aspects of the intervention have been standardized, and training manuals have been developed for hospice staff.

This study addresses a current gap in scientific evidence because there is a lack of evaluations of supportive interventions for family caregivers in hospice. A systematic review in 2016 of behavioral and educational interventions to support family caregivers in end-of-life care³⁷ identified only 14 studies; most of them were pilot trials. Hospice caregivers can

benefit from structured cognitive-behavioral interventions designed to address their unique needs during the challenging time of taking care of a loved one at the end of life.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1. Timeline for data collection. CQLI-R, Caregiver Quality of Life Index-Revised; CRA, Caregiver Reaction Assessment; F2F, face to face; GAD-7, Generalized Anxiety Disorder 7-Item; PISCES, Problem-Solving Intervention to Support Caregivers in End-of-Life Care Settings; VC, videoconferencing.

Figure 2.
 Consolidated Standards of Reporting Trials (CONSORT) diagram.

Table 1.

Caregiver and Patient Characteristics

Characteristic	No. (%) ^a		
	Attention control (n = 172)	Face to face (n = 171)	Videoconferencing (n = 171)
Caregiver			
Age, y, mean (SD)	59.7 (13.6)	59.9 (11.6)	61.3 (12.0)
Women	132 (76.7)	125 (73.1)	129 (75.4)
Race/Ethnicity			
Non-Hispanic white	154 (89.5)	152 (88.9)	150 (87.7)
Asian	9 (5.2)	8 (4.7)	5 (2.9)
African American	3 (1.7)	8 (4.7)	5 (2.9)
Hispanic	2 (1.2)	1 (.6)	4 (2.3)
Other	4 (2.3)	2 (1.2)	7 (4.1)
Relationship to patient			
Adult child	88 (51.2)	100 (58.5)	96 (56.1)
Spouse or partner	50 (29.1)	39 (22.8)	50 (29.2)
Other	34 (19.8)	32 (18.7)	25 (14.6)
Resides with patient	90 (52.3)	74 (43.3)	82 (48.0)
Bereaved at enrollment	79 (45.9)	65 (38.0)	81 (47.4)
Hospice agency			
Agency A	76 (44.2)	77 (45.0)	76 (44.4)
Agency B	96 (55.8)	94 (55.0)	95 (55.5)
Employed	76 (44.2)	91 (53.5)	74 (43.3)
Caregiving >20 h/wk	97 (56.4)	93 (54.4)	101 (59.1)
Caregiving >1 y	126 (73.3)	122 (71.4)	115 (67.3)
CQLI-R, mean (SD) ^b			
Physical	7.1 (2.1)	7.2 (1.9)	7.0 (2.2)
Social	7.8 (2.4)	8.1 (2.1)	8.1 (2.1)
Emotional	7.2 (2.2)	7.2 (2.2)	7.5 (2.1)
Financial	7.0 (2.8)	7.2 (2.6)	7.1 (2.6)
GAD-7, mean (SD) ^c	7.6 (5.2)	7.1 (5.4)	6.8 (5.3)

Characteristic	No. (%) ^a		
	Attention control (n = 172)	Face to face (n = 171)	Videoconferencing (n = 171)
Patient			
Age, y, mean (SD)	79.1 (15.2)	81.5 (12.4)	80.1 (13.2)
Women	100 (58.1)	114 (66.7)	101 (59.1)
Diagnosis^d			
Cancer	71 (41.3)	53 (31.0)	59 (34.6)
Dementia or related illness	28 (16.3)	44 (25.7)	33 (19.3)
Cardiovascular disease	34 (19.8)	24 (14.0)	18 (10.5)
Other	26 (15.1)	20 (11.7)	32 (18.7)
Unknown	13 (7.6)	30 (17.5)	29 (17.0)

Abbreviations: CQLI-R, Caregiver Quality of Life Index-Revised; GAD-7, Generalized Anxiety Disorder 7-Item; SD, standard deviation.

^aDue to rounding, percentages might not sum to 100.

^bRange = 0–10; higher is greater quality of life.

^cRange = 0–21; higher is more anxious.

^d χ^2 (8) = 22.1; P = .005.

Table 2.

GAD-7 and CQLI-R Scores at Baseline and Exit by Treatment Group

Measure	Mean (SD) at baseline	Mean (SD) at exit	F	P value ^a	Effect size η^2	Comparison	P value ^b
GAD-7 ^c							
AC	7.6 (5.2)	6.6 (4.9)				AC vs F2F	.004
F2F	7.1 (5.4)	5.2 (4.2)	6.63	.001	.35	F2F vs VC	.01
VC	6.8 (5.3)	6.2 (4.6)				VC vs AC	.99
CQLI-R ^d							
Physical							
AC	7.1 (2.1)	6.7 (2.2)				AC vs F2F	.01
F2F	7.2 (1.9)	7.3 (1.9)	5.22	.006	.23	F2F vs VC	.06
VC	7.0 (2.2)	6.8 (2.0)				VC vs AC	.99
Social							
AC	7.8 (2.4)	7.6 (2.5)				AC vs F2F	.01
F2F	8.1 (2.1)	8.3 (1.8)	7.60	.001	.05	F2F vs VC	.003
VC	8.1 (2.1)	7.7 (2.3)				VC vs AC	.99
Emotional							
AC	7.2 (2.2)	7.1 (2.1)				AC vs F2F	.06
F2F	7.2 (2.2)	7.6 (1.8)	2.77	.06	.05	F2F vs VC	.97
VC	7.5 (2.1)	7.5 (1.8)				VC vs AC	.62
Financial							
AC	7.0 (2.8)	7.0 (2.6)				AC vs F2F	.004
F2F	7.2 (2.6)	7.7 (2.1)	6.64	.001	.04	F2F vs VC	.01
VC	7.1 (2.6)	7.1 (2.4)				VC vs AC	.99

Abbreviations: AC, attention control; CQLI-R, Caregiver Quality of Life Index-Revised; F2F, face to face; GAD-7, Generalized Anxiety Disorder 7-Item; VC, videoconferencing.

Sample sizes for AC, F2F, and VC, respectively, are 172, 171, and 171 at baseline; 160, 159, and 141 at 1 month.

^a P value from regression model adjusting for the baseline value of the measure, hospice agency, patient diagnosis, and bereaved status at exit.

^b Bonferroni adjusted P value for three pairwise comparisons.

^c Observed mean score, range 0–21; higher is more anxious.

Observed mean score, range 0–10; higher is greater quality of life.
p

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