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Psychosocial Telephone Intervention for Dementia Caregivers: A Randomized, Controlled Trial

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Abstract

Background—Identifying effective and accessible interventions for dementia caregivers is critical as dementia prevalence increases.

Objective—Examine the effects of a telephone-based intervention on caregiver well-being.

Design—Randomized, controlled trial.

Setting—Academic medical center.

Participants—250 distressed, family, dementia caregivers.

Intervention—Caregivers randomized to receive 16 telephone contacts over 6 months of either the Family Intervention: Telephone Tracking–Caregiver (FITT-C) or Telephone Support (TS).

Outcome—Primary outcome variables were family caregivers' depressive symptoms, burden, and reactions to care recipients' behavior problems at 6 months.

Results—The FITT-C intervention resulted in significantly improved caregiver depressive symptoms ($p = 0.003$; 27% net improvement) and less severe reactions to care-recipient depressive behaviors ($p = 0.009$; 29% net improvement) compared to the control condition (TS).

Conclusion—An entirely telephone-based intervention improves caregivers' depressive symptoms and reactions to behavior problems in the care recipient and is comparable to reported results of face-to-face interventions.

Keywords

Caregiving; Dementia; Intervention; Depression; Burden

1. Introduction

Recent estimates suggest that 5.4 million individuals have Alzheimer's disease or related dementia (1). This number is expected to rise dramatically as the baby-boomer generation enters old age, with estimates that 7.7 million people will be affected by 2030 (1). The majority of individuals with dementia (65–75%) are cared for at home by family members, primarily spouses and adult children (2). Caregiving is widespread, with more than 15 million Americans providing 17.5 billion hours of unpaid care each year (1). The stress associated with caring for a family member with dementia can be severe, and is associated with heightened risk for a variety of negative health consequences and dementia and death (3–5). Caregivers are also at risk for mental health problems, including depression and anxiety (6). Many caregivers experience social isolation and tend to underutilize formal community resources (7;8).

Interventions have been developed to address negative effects of caregiving, including education, respite, psychotherapeutic, family support, and multicomponent approaches. In general, these interventions have shown modest effects (small to medium effect sizes) on outcomes such as burden, depression, and quality of life. Many studies lack randomization, control groups, or have other methodological limitations. Control conditions often do not account for nonspecific effects of interventions, thereby limiting conclusions about specific effects of interventions. Multicomponent interventions appear most effective and show significant effects on burden, depression, and delayed institutionalization (9;10). Because dementia caregivers' situations can vary, many of these multicomponent interventions have tailored intervention strategies based on specific needs of the caregiver (Czaja et al., 2009). Although attractive, tailored multicomponent interventions are limited by their potential high cost and challenges involved in implementing them on a large scale, especially those involving home visits and family sessions.

Many caregivers encounter barriers that make in-person interventions difficult, including lack of transportation, being homebound, living in a rural setting, time pressures of caregiving, or stigma associated with seeking help. In response to these issues, our group developed the Family Intervention: Telephone Tracking – Caregiver (FITT-C), an entirely telephone-delivered caregiver intervention, to enhance accessibility and to potentially reduce costs. Telephone-based interventions have been successfully used to improve functioning in individuals with a variety of clinical problems, including chronic diseases, postoperative care, and lifestyle change (11–13). The theoretical framework of FITT-C is based on psychosocial transition (14), transactional stress and coping (15), and a systems view of family functioning (i.e., McMaster Model of Family Functioning)(16). The three underlying theories of FITT-C are geared toward enhancing coping within the caregiver through active

problem-solving and facilitating positive changes within the family system. According to these models, dementia caregiving involves potentially stress-inducing transitions, prompting an appraisal process by the caregiver to identify whether family or other resources can be activated to cope with the changes. The FITT-C conceptualizes burden as a situation in which objective and subjective demands exceed the caregiver's coping and resources. Persisting burden can then become a stressor in its own right, leading to feelings of helplessness, hopelessness, and depression. The FITT-C directly targets caregiver appraisal and coping to reduce stress, improve caregiver mood and quality of life, and positively impact the family system. Compared to standard care, we found that an earlier version of FITT showed reductions in perceived burden and less-severe reactions to memory and behavior problems (17).

The aim of the current study was to establish the efficacy of an entirely telephone-delivered intervention to reduce depressive symptoms, burden, and reactions to care recipient behavior problems in distressed dementia caregivers. Secondary aims were to examine effects of the intervention on measures of self-efficacy, family functioning, and health-related quality of life. Finally, we examined potential moderators of the treatment response.

2. Methods

2.1. Design Overview

The current study was a randomized, controlled trial. After undergoing face-to-face baseline assessment and receiving a resource packet, 250 caregivers were randomly assigned to receive the FITT-C or Telephone Support (TS). Both conditions involved the same number of contacts. Telephone-based follow-up assessment was conducted at 6 months (end of treatment). Complete details about study procedures (including CONSORT flow diagram) and baseline data have been previously published and will only be briefly described here (18). All study procedures were approved by the Rhode Island Hospital Institutional Review Board.

2.2 Participants

2.2.1 Caregivers—Caregivers were required to endorse at least two of nine negative experiences associated with caregiving (e.g., overwhelm, sad mood, family conflict, exhaustion). Caregivers were excluded based on the following criteria: 1) major acute medical illness; 2) not primarily English speaking; 3) cognitive impairment (MMSE impaired for age and education); 4) in caregiving role for at least 6 months and providing at least 4 hours of supervision/assistance per day; or 5) no access to a telephone.

2.2.2 Care Recipients—Care recipient inclusion criteria: 1) formal DSM-IV diagnosis of dementia documented by a neurologist, psychiatrist, or geriatrician (if not available, diagnosis confirmed by study neurologist); 2) living in the community; and 3) no plan for placement in long term care or for caregiver to end role within 6 months. Care recipients with other major medical conditions affecting independent functioning were excluded.

2.3 Procedures

Participants were enrolled on a rolling basis over 53 months through various methods, 62% were referred by physicians and the remainder was recruited through community-based approaches. We screened 477 individuals and enrolled 250 after screening. Main reasons for caregivers not participating were not meeting inclusion/exclusion criteria ($n = 103$), problems with scheduling or contact ($n = 66$), or they were not interested in participating ($n = 58$). Participants were randomly assigned to receive FITT-C ($n = 133$) or Telephone Support ($n = 117$) using an urn randomization procedure, to balance the two conditions on non-treatment variables that might affect outcome (i.e., caregiver gender, dementia severity, relationship status, dementia type, live-in caregiver or not, and frequency of care recipient behavior problems)(19).

Both interventions were entirely telephone-based. To control for attention effects, the frequency of contacts was kept identical between the conditions. Figure 1 presents the timeline and frequency of telephone contacts. Although initial telephone contacts had standardized durations (approximately 60 minutes), follow-up contacts varied depending on the severity of caregiver problems (15–30 minutes). Each caregiver was assigned one therapist, who made all telephone contacts with that caregiver. If a caregiver could not be contacted after three separate attempts, another attempt was not made until the next scheduled contact. If two consecutive contacts were missed, caregivers were considered lost to follow up and identified as dropouts. Individuals recruited to serve as therapists had experience working with dementia patients and/or caregivers or psychotherapy experience working with adults. Therapists were required to be master's level and received training in dementia and caregiving. FITT-C therapists received additional training in the intervention method. Quality control was implemented by weekly supervision of both the FITT-C and TS therapists. All telephone contacts were audiotaped, and a subset were reviewed during supervision sessions to ensure adherence and to better guide therapists' intervention strategies. Any deviations from the treatment protocol were brought to the therapist's attention for remediation.

Outcome assessments were conducted face-to-face at the baseline (prior to random assignment) and by telephone at the 6-month assessment by a research assistant who was blind to group membership. Prior to using this approach, we established that the method of administration (Telephone vs. Face-to-Face) had no significant effect on the reliabilities of the primary outcome measures (18). After baseline assessment, all caregivers received a packet of educational and resource materials.

2.4 Intervention Groups

2.4.1 FITT-C Intervention—Caregivers received 16 telephone contacts distributed over 6 months that focused on providing dementia education, emotional support, directing caregivers to appropriate resources, encouraging caregivers to attend to their physical, emotional, and social needs, and teaching caregivers strategies to cope with ongoing problems. The FITT method consisted of an initial orientation and psychoeducation call that involved providing caregivers with a rationale of FITT, an introduction to the resource materials, a description of future telephone contacts, and education about dementia and

effects of caregiving. The remaining contacts identified changes since the last call, assess key areas for the caregiver (i.e., health, functioning, mood, social support, and family life) and provided interventions and psychoeducation to help caregivers solve problems and utilize family resources. The focus of the final two calls changed to identifying helpful aspects of contacts and how these functions could be met after termination. After the final call, the therapist prepared a letter briefly highlighting the progress during the intervention and encouraged the caregiver to continue to develop and utilize adaptive coping strategies.

2.4.2 Telephone Support (Control Condition)—The control condition was designed to account for nonspecific therapeutic factors, such as interpersonal contact and relationship. The approach was based on a nondirective control condition used by Borkovec and Costello in a previous study [16]. The primary goal of this condition was to provide non-directive support for caregivers through empathic and reflective listening and open-ended questioning. The role of the therapist is to provide unconditional positive regard to caregivers and to establish a supportive relationship. Therapists were discouraged from providing directive strategies, such as education, problem-solving, advice-giving, or task directives. However, education was not withheld if the caregiver had the wrong information.

2.5 Outcome Measures

Primary outcome measures included the Zarit Burden Interview (ZBI) (20), the Center for Epidemiology Studies Depression Scale (CESD) (21), and reactions to care recipients' behavior problems as measured by the Revised Memory and Behavior Problem Checklist (RMBPC) (21). Secondary outcome measures were selected to address other areas of caregiver functioning, including the Family Assessment Device (FAD) (22), the Self-Efficacy Questionnaire (SEQ) (23), the Positive Aspects of Caregiving (PAC) scale, and health-related quality of life as measured by the EuroQoL (24). Other measures, administered to caregivers in both groups, included the Credibility/Expectancy Questionnaire (after 2 months of intervention) (25), and a treatment satisfaction questionnaire (end of the intervention).

2.6 Statistical Analysis

Descriptive statistics were calculated for each intervention group and t-tests were conducted to determine any between-group differences at baseline. Logistic regression analysis was used to identify predictors of dropout. Analysis of covariance was used to control for potential confounders of the intervention effect on both primary and secondary outcomes (expressed as between-group differences in change scores from baseline to 6 months), as well as for moderation testing. To address clinical significance of primary outcomes, we followed the methods of Belle et al. (9). Briefly, we used the criterion of 0.5 baseline SD improvement from baseline to 6 months. For each intervention group, we calculated the net improvement by calculating the percentage of individuals who improved by at least 0.5 SD from baseline to 6 months and subtracting the percentage of individuals who worsened by at least 0.5 SD. We used between-arm differences in net percentage improvement as the criterion for determining clinical significance. Precision of the estimates was evaluated via bootstrapping procedures.

3. Results

Demographic characteristics of the groups have been previously published (18). Briefly, 78% of caregivers were female and half were spouses. The majority (80%) lived with the care recipient and had been providing care for almost 4 years. Most care recipients were diagnosed with Alzheimer's disease (77%), with 64% rated as mild and 31% rated as moderate. The majority of the sample was Caucasian (96%). There were no significant differences between the groups on any demographic characteristic or dementia variable, except for significantly greater years of education for FITT-C caregivers compared to those in the TS group. Because results did not change with education included as a covariate, we chose to present unadjusted findings for ease of interpretation.

3.1 Dropout Analysis

Fifteen percent of participants dropped from the study by 6-month follow up. There were no significant group differences in attrition (18). Predictors of dropout at 6 months were identified using logistic regression. The reference group for this analysis comprised of spouse caregivers living with the care recipient, providing care for 3 years, and who had median scores on the ZBI (39) and the CES-D (15). This group had a lower risk of dropout than the full sample (Odds = .11 [95% CI .06 to 0.18]). Statistically significant predictors were non-spouse caregiver (child: OR 2.85 [95% CI 1.19 to 6.84]; non-child: OR 5.22 [95% CI 1.48 to 18.39]), caregiver living apart from the care recipient (OR 0.25 [95% CI 0.08 to 0.77]), shorter length of caregiving in years (OR 0.76 [95% CI 0.63 to 0.93]), and higher depressive symptoms (OR 1.05 [95% CI 1.01 to 1.10]). Higher ZBI scores were borderline significant (OR .97 [95% CI 0.94 to 1.00]). The area under the curve (AUC) for this model was 0.73 (95% CI 0.64 to 0.82).

3.2 Intervention Characteristics

When examining the interventions delivered, the number of missed telephone calls from 16 planned calls was comparable between conditions with an average of 1.81 (SD=4.33) missed calls for FITT-C and 1.22 (SD=3.49) for TS ($p=0.24$). The average call length was slightly longer for the FITT-C group, mean=36.69 minutes (SD=6.69) compared to TS, mean=30.10 minutes (SD=8.41). In order of frequency, the most commonly used intervention strategies for FITT-C were a combination of supportive strategies (validation, permission) and directive strategies (education, reframing, and problem-solving). Bibliotherapy, interpretation, and review of case with senior research staff were rarely used.

3.3 Primary Outcomes

Table 1 presents the means and standard deviations of baseline and 6-month scores for each group for the CES-D, ZBI, and RMBPC Total and Subscale reaction scores among study completers. The FITT-C group ($n = 133$) showed significantly improved depressive symptoms (CES-D $p=0.003$) at end of treatment compared to the TS group ($n = 117$). In contrast, there were no group differences for caregiver burden (ZBI $p=0.485$). Significant reductions were seen in the FITT-C group on the depressive behaviors subscale of the RMBPC after 6 months compared to TS ($p=0.009$), but the other two subscales as well as the total score failed to reach statistical significance.

Table 2 shows the percentage of caregivers who improved or worsened on each of the three primary outcomes separately by study group. Net percentage improvement (NPI) on the ZBI was larger within FITT-C (NPI=19%) than within TS (NPI=9%), although between-group differences did not reach statistical significance (NPI Diff 10% [95% CI -10% to 32%]). Much larger between-group differences in net percentage improvements were seen on the CES-D (NPI Diff 27%, [95% CI 8% to 47%]). Differences on the RMBPC Total score (NPI Diff 23% [95% CI 3% to 42%]) were significant, and appeared driven by large differences in depression-specific reaction scores (NPI Diff 29%, [95% CI 12% to 47%]).

3.4 Secondary Outcomes

Table 3 presents the means and standard deviations of baseline and 6-month scores for each group on the secondary outcomes among study completers. Scores improved in both groups for family functioning, self-efficacy for support services (SEQ SS) and health-related quality of life (EQ-5D). The only statistically significant finding was greater improvement for TS compared to FITT-C in positive aspects of caregiving (PAC $p=0.041$).

3.5 Moderation Analysis

We identified *a priori* factors that could modify the treatment effect on primary outcomes. There were no significant interactions with treatment for caregiver relationship, caregiver race, caregiver gender, live-in status, or dementia type on any of the primary outcomes.

3.6 Treatment Credibility/Expectancy and Satisfaction

After two months of the intervention, participants completed ratings of credibility of the intervention and expectancy for change in both groups. Compared to the caregivers in the TS condition, caregivers in FITT-C perceived the intervention as significantly more logical (FITT-C $M = 8.04$, $SD = 1.46$ vs. TS $M = 7.33$, $SD = 1.87$; $p = 0.002$) and more likely to successfully reduce caregiver stress (FITT-C $M = 7.64$, $SD = 1.67$ vs. TS $M = 6.90$, $SD = 1.87$; $p = 0.002$). However, mean values for both groups were on the upper end of the scale (i.e., 1 = not logical/useful to 9 = very logical/useful). Caregivers who received the FITT-C did not statistically differ from caregivers who received TS when asked how much improvement (percent improvement) in caregiver stress they thought would occur (FITT-C $M = 74.44$, $SD = 20.57$ vs. TS $M = 67.19$, $SD = 20.82$, $p = 0.06$). At the end of the intervention, caregivers in both conditions were asked about satisfaction with the intervention. Overall satisfaction rates (1 = not satisfied to 4 = very much satisfied) did not significantly differ between the groups (FITT-C $M = 3.83$, $SD = .51$ vs. TS $M = 3.78$, $SD = .49$ $p = 0.57$).

4. Discussion

We found that an entirely telephone-delivered intervention resulted in improved depressive symptoms and reactions to care recipient's depressive behaviors in dementia caregivers. These findings demonstrated clinical significance by showing that compared to TS, the FITT-C intervention resulted in a net improvement in depressive symptoms among 27% of caregivers, and in improved reactions to care-recipient overall memory and behavior problems by 23% of caregivers. The latter finding seemed to be driven by caregivers'

reactions to depressive behaviors in the care recipient, which showed a net improvement of 29% in favor of the FITT-C. These results are consistent with recent caregiver intervention studies that emphasized problem-solving strategies (9;26). Similarly, the effect sizes of our findings are generally comparable to the best controlled, large studies that used face-to-face, multicomponent interventions (9;27), suggesting that a telephone-delivered intervention may be just as effective as in-office or home-based interventions. A telephone intervention is more accessible and convenient for busy caregivers and has the potential for being less costly than in-office or home-based interventions due to fewer space needs and no travel costs.

The current study made use of a rigorous design that controlled for the number of contacts and nonspecific therapist effects, which has not been used in most dementia caregiver intervention studies. Our findings suggest that the specific content and therapeutic approach of the FITT-C are critical components for change in caregivers' symptoms. Caregivers receiving TS reported high levels of satisfaction and expectancy for change (comparable to the FITT-C condition), yet did not experience the anti-depressant effects or reductions in reactions to depressive behaviors seen in the FITT-C group. Surprisingly, the TS group showed greater improvement in positive aspects of caregiving than FITT-C, although both groups improved over the course of the intervention. It may be that the nondirective discussion of caregiving in the TS condition led these caregivers to search and find meaning in their caregiving activities whereas the direct eliciting of positive aspects of caregiving in the FITT-C may have seemed artificial or forced. There is evidence that greater positive feelings about caregiving are associated with lower levels of depressive symptoms and burden (28) and that caregivers with fewer positive feelings about caregiving may benefit most from an intervention (29).

Contrary to our hypothesis, we did not find intervention effects for burden. Interestingly, a small study of an earlier version of the FITT-C intervention showed significant improvement in burden (17). Several factors could explain the different findings. In the prior study, we used a treatment-as-usual control condition, rather than the active condition in the present. The intervention duration was also one year, rather than six months in the current study, suggesting that the longer intervention duration may have a greater impact on burden. In general, there is evidence that longer intervention duration leads to stronger effects (30). Many psychosocial interventions fail to demonstrate reductions in caregiver burden, including the large multi-site REACH-II study (9;30;31). This lack of findings may be due to the multi-component nature of the burden construct (32). Interventions, such as the FITT-C, may improve some aspects of burden, but not others. Future studies could explore whether additional components could be added to the FITT-C to improve multiple aspects of caregiver burden. There may also be a role for booster sessions or ad hoc contacts to address the declining course of dementia and potentially enhance its effects on caregiver burden.

The current findings support the FITT-C as an evidence-based treatment for stressed family caregivers of individuals with dementia. There has been limited translation of empirically-supported caregiver interventions research into practice (33). The next step in moving the FITT-C into the community is to determine its cost-effectiveness, and to examine whether the FITT-C can perform under "real world" conditions in a community implementation trial.

Based on dropout analysis from the study, highly depressed caregivers and nonspousal caregivers may require additional treatment or alternate approaches. Although the FITT-C could be easily adapted into an internet-based intervention or implemented by video-conferencing technology, the simplicity and widespread availability of the telephone has clear advantages.

The current study has limitations. Despite our best recruitment efforts, the sample was mainly Caucasian, so we are unable to generalize findings to ethnically and racially diverse groups. There is evidence that different ethnic groups may respond differently to caregiver interventions (9). The current study included a single post-treatment follow-up assessment, so we are unable to determine the maintenance of the effect. Finally, although the attrition rate was low and there was no differential dropout by group, dropout analysis suggests some limits in applicability of results to non-spouse, distressed caregivers. Although these non-spouse caregivers may spend less time in direct care, there is evidence that depression is more strongly related to perceptions of burden than objective time spent caregiving(30). We anticipate that future trials of the FITT-C will address these limitations.

Additionally, the approach of Belle et al. (9) is based on evaluating the clinical significance of an intervention by characterizing as “improved” subjects that show a 0.5 baseline SD improvement from baseline to 6 months, irrespective of differences in reliability across measurement scales. Other approaches, e.g. those based on the Reliable Change Index (34;35), can correct for such differences, but are difficult to apply when no external measure of test-retest reliability is available for the specific population at hand (36).

In sum, the current trial demonstrates that the entirely telephone-based FITT-C intervention reduced depression and reactions to patient behavior problems in stressed caregivers of individuals with dementia.

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Figure 1.
Timeline of the Family Intervention: Telephone Tracking – Caregiver (FITT-C) and Telephone Support (TS) Interventions

Table 1

Means and Standard Deviations for Primary Outcomes at Baseline and 6-Months.

	FITT-C (N = 133)		Telephone Support (N = 117)		P-value ^d
	Baseline	6 Months	Baseline	6 Months	
ZBI	38.61 (13.98)	35.95 (14.34)	38.82 (14.63)	37.17 (13.93)	0.485
CES-D	17.04 (10.22)	14.15 (10.00)	15.19 (9.98)	15.62 (10.18)	0.003
RMBPC-RT	22.98 (12.89)	20.04 (13.68)	22.59 (13.94)	22.00 (12.82)	0.160
RMBPC-RD	8.87 (7.06)	6.53 (6.36)	7.96 (7.85)	7.97 (6.74)	0.009
RMBPC-RB	5.92 (5.44)	5.81 (5.80)	5.91 (4.84)	5.73 (5.20)	0.909
RMBPC-RM	8.25 (5.24)	7.72 (5.28)	8.90 (5.82)	8.33 (5.50)	0.955

Note: ZBI – Zarit Burden Interview; CES-D = Centers for Epidemiological Studies Depression Scale; RMBPC-RT = Revised Memory and Behavior Problem Checklist Reaction Score; RMBPC-RD = Revised Memory and Behavior Problem Checklist Reaction Score Depression Subscale; RMBPC-RB = Revised Memory and Behavior Problem Checklist Reaction Score Behavior Subscale; RMBPC-RM = Revised Memory and Behavior Problem Checklist Reaction Score Memory Subscale.

^d P-values for 2-sample t-test of between-group differences in change scores.

Table 2Clinically Significant Changes (%) in Primary Outcome Measures.^a

	FITT-C (N=133)			Telephone Support (N=117)			Net Improvement Difference (95% CI)
	Improved	Worsened	Net Improvement	Improved	Worsened	Net Improvement	
ZBI	38.74	19.82	18.92	31.31	22.22	9.09	9.83 (-9.83, 31.64)
CES-D	40.35	14.91	25.44	25.74	27.72	-1.98	27.42 (7.92, 47.08)
RMBPC-RT	34.82	16.07	18.75	24.24	28.28	-4.04	22.79 (3.19, 42.00)
RMBPC-RD	34.82	10.71	24.11	17.17	22.22	-5.05	29.16 (11.52, 46.65)
RMBPC-RB	21.62	20.72	0.90	24.24	25.25	-1.01	1.91 (-16.84, 0.64)
RMBPC-RM	30.36	24.11	6.25	34.02	27.84	6.19	0.06 (-20.79, 20.54)

Note. ZBI = Zarit Burden Interview; CES-D = Centers for Epidemiological Studies Depression Scale; RMBPC-RT = Revised Memory and Behavior Problem Checklist Total Reaction Score; RMBPC-RD = Revised Memory and Behavior Problem Checklist Reaction Score Depression Subscale; RMBPC-RB = Revised Memory and Behavior Problem Checklist Reaction Score Behavior Subscale; RMBPC-RM = Revised Memory and Behavior Problem Checklist Reaction Score Memory Subscale.

^aImprovement or worsening defined as unadjusted standardized change of $\pm .5$ baseline SD or more from baseline to 6 months.

Table 3
Means and Standard Deviations for Secondary Outcomes at Baseline and 6-Month

	FITT-C (N = 133)		Telephone Support (N = 117)		P-value ^a
	Baseline	6 Months	Baseline	6 Months	
FAD ^b	2.11 (0.61)	2.09 (0.63)	2.05 (0.55)	2.00 (0.50)	0.798
SEQ SM	29.35 (10.78)	34.17 (9.55)	29.74 (11.86)	32.27 (10.04)	0.108
SEQ SS	23.39 (10.89)	31.06 (7.77)	24.00 (9.93)	30.64 (7.28)	0.467
EQ-5D VAS	80.08 (16.07)	79.87 (15.00)	77.14 (17.61)	77.59 (15.69)	0.748
PAC ^c	31.51 (7.58)	34.13 (8.31)	30.35 (9.65)	35.24 (7.55)	0.041

Note. FAD = Family Assessment Device; SEQ SM = Self Efficacy Questionnaire Symptom Management; SEQ SS = Self Efficacy Questionnaire Support Services; EQ-5D VAS = Euro Quality of Life Visual Analog Scale; PAC = Positive Aspects of Caregiving. For all scales except FAD, higher scores reflect better functioning.

^a P-values for 2-sample t-test of between-group differences in change scores.

^b Only available for 171 participants.

^c Only available for 220 participants.