Published in final edited form as:

Acta Psychiatr Scand. 2013 April ; 127(4): 279–286. doi:10.1111/j.1600-0447.2012.01901.x.

Sustained outcomes of a peer-taught family education program on mental illness

A. Lucksted^{1,2}, D. Medoff^{1,2}, J. Burland, B. Stewart¹, L. J. Fang¹, C. Brown^{1,2}, A. Jones³, A. Lehman¹, and L. B. Dixon⁴

¹University of Maryland School of Medicine, Baltimore, MD

²VA Capitol Healthcare Network Mental Illness Research Education and Clinical Center, Baltimore, MD

³Manila Consulting Group, McLean, VA

⁴New York State Psychiatric Institute and Columbia University New York, NY, USA

Abstract

Objective—This study examines 6-month follow-up data from participants in a randomized trial of a peer-driven 12-session family support and education program, called family-to-family (FTF) and offered by the US National Alliance on Mental Illness, to determine whether improvements in distress, family functioning, coping and empowerment were sustained.

Method—Individuals randomized to the FTF condition were assessed after program completion and then 3 months later on measures of distress, family functioning, coping, and empowerment. We used a multilevel regression model (SAS PROC MIXED) to test for significant changes over time (baseline, 3 and 9 months).

Results—All significant benefits that FTF participants gained between baseline and immediately post-FTF were sustained at 9 months including reduced anxiety, improved family problem-solving, increased positive coping, and increased knowledge. Greater class attendance was associated with larger increases in empowerment and reductions in depression and displeasure with ill relative.

Conclusion—Evidence suggests that benefits of the FTF program were sustained for at least 6 months without any additional boosters or supports. Peer-based programs may produce sustained benefits for individuals seeking help in addressing challenges and stresses related to having a family member with a mental illness.

Keywords

family burden; outcome; psychoeducation; relatives

Introduction

Previous research makes clear that family members of adults with serious mental illnesses (SMI) often need information and support (1–6). While various models of professionally led interventions and consultation exist (7, 8), the most widely available program designed to meet family member needs is peer-run family-to-family (FTF), a free, community-based, education and support program for family members of adults with mental illnesses, offered nationally by the National Alliance on Mental Illness (NAMI). Developed and facilitated by trained volunteer family members of adults with mental illness, FTF classes meet 2–3 h per week for 12 weeks, usually in non-clinical settings, and cover a standardized curriculum incorporating theories of stress and coping, mutual assistance, and trauma recovery, adaptation, and support. Classes include information and skill development regarding mental illness and its treatments, problem-solving, communication, self-care, consumers' experiences of mental illness, and advocacy. NAMI currently offers FTF in almost all US states and several provinces in Canada and Mexico with the primary goal of improving family member understanding, coping and wellbeing, although FTF developers hope it also benefits the ill relatives of FTF participants (9). The FTF course is described in more depth in the Materials and methods section.

Previous research on FTF

Several previous studies indicate that FTF and programs like it do confer immediate benefits on their participants. A randomized controlled trial (RCT) of Journey of Hope, a family-based program conceptually similar to FTF, found that graduates showed increased care giving satisfaction and decreased information needs (10–12). Two previous studies of FTF conducted by our team – one a small uncontrolled pilot trial and the second a larger controlled study – reported immediate (pre and post) benefits for FTF attendees, including increased empowerment and decreased subjective burden (13, 14). Most recently, in a RCT of FTF in Maryland conducted by our team, FTF participants reported significant improvements in problem-focused coping, emotion-focused coping, anxiety, and family functioning immediately after their FTF course (15).

Whether these immediate gains translate into lasting benefits for those who participate in programs such as FTF is less clear, but of crucial import given the profound unmet needs and stresses experienced by many family members. Previous research has been promising, but sparse. The immediate benefits gained by Journey of Hope participants were sustained 6 months after that program ended (11), as were immediate post-FTF benefits to participants in both previous smaller studies (13, 14). In a qualitative study examining the processes through which FTF helped participants (16), some participants reported that FTF benefits were still unfolding 1–3 months after FTF was over. However, these samples were all of modest size. Further, no studies have examined factors that may contribute to the durability or continued emergence of benefits from peer-led community-based family programs such as FTF – including, in particular, attendance at the intervention, an important real-life issue in such community-based programs.

Aims of this study

Therefore, this study examines further data from our randomized trial in order to assess benefits to family-to-family (FTF) participants 6 months after they completed the program and the effect of FTF attendance on the maintenance and accrual of these benefits. We hypothesize that all benefits reported at the immediate conclusion of FTF will be maintained 6 months later. We also hypothesize that FTF participants' will show *additional* benefits 6 months after FTF ends. Finally, we hypothesize that participants who attended more FTF class meetings will show more benefits than those who attended fewer FTF class meetings.

Material and methods

Overview

This study reports on the 6-month follow-up of participants allocated to FTF as part of a randomized trial of FTF. Our previous report focused on a comparison of the FTF and control participants right after completion of the program. Individuals in the FTF condition were also assessed 6 months later with a similar battery of assessments, enabling the analyses reported herein. Below we first describe the intervention (FTF) in more detail, then briefly describe the setting and procedures involved in the study, the participants, measures, and data analysis plan.

FTF program

The NAMI FTF Education Program, now in its 20th year, is a 12-week, family-led course conducted under the auspices of the national NAMI organization and offered free in a wide variety of communities. It is open to any family member, partner, or close friend of an adult with a serious and persistent mental illness, although the ill person does not attend FTF classes with their family member. FTF is designed to help family members improve their wellbeing and coping capacities, and to better understand the experiences of their ill relative(s), the nature of mental illness, various aspects of the treatment system, and their own normative emotional reactions and conflicts.

FTF classes combine didactic, discussion, and experiential learning, emphasizing stress-coping and trauma recovery models of healing. Through the manualized FTF curriculum families are taught that not knowing how to cope is a normal response to traumatic life-altering events and that with education and empowerment they can reclaim their inherent strengths and meet their challenges. The overarching goal of FTF is to guide family members to emotional understanding, healing, insight and action through a combination of information, sharing, skill-building, and problem-solving and to provide an empathic community where attendees meet others who 'get' what they are going through.

Specifically, each of the 12 class meetings focuses on a different topic: FTF's orientation to mental illness and family members; information about specific diagnoses and their treatments; basics of brain function per mental illness, treatment and recovery; problem-solving skills workshop; review of medication and issues; first person experiences of mental illness; communication skills workshop; self-care strategies; principles and potential of recovery; mental health advocacy.

Over the 12 course meetings, class participants collect handouts in a notebook eventually comprising 250 pages of useful resource information which they keep to refer to and to share with others in their family and community. This information and the curriculum are kept current through yearly updates. Classes are offered in a wide variety of non-clinical community settings and occasionally within clinical mental health organizations (still led by trained independent FTF family member volunteers).

As family members of someone with a mental illness themselves, FTF teachers provide peer support, perspective, and role modeling as well as deliver the curriculum. They are recruited out of FTF classes, and all are volunteers. They complete a rigorous 3-day training (led by NAMI state level trainers) to deliver the curriculum as prescribed and to convey sensitivity to the struggles of each participant. They are encouraged to de-emphasize participants' trying to memorize class information and instead to emphasize participants' internal processes of integrating new ideas with their lives /understanding and strengthening their confidence that they can learn and find information and help. There are more than 10 000 FTF teachers currently (J. Burland, personal communication, 2012).

To date, over 300 000 family members have graduated from FTF classes. Forty-nine US states offer the program through NAMI state organizations and their affiliates. The course curriculum has been translated into Spanish, Italian, Mandarin, Vietnamese, and Arabic and is also taught in several parts of Canada, Mexico, and Italy.

Settings and procedures

This randomized controlled study (15) was conducted in the regions of Maryland served by five NAMI affiliates (Baltimore Metropolitan region, and Howard, Frederick, Montgomery, and Prince George's Counties) under a protocol approved by the University of Maryland Institutional Review Board. The 54 different FTF courses involved were taught by pre-existing NAMI-trained FTF Teachers and were offered at the times and places dictated by the affiliates' usual practices; each course could include both study participants and non-participants and study protocol did not change any details of the naturally occurring courses.

During the study period, NAMI-MD's FTF state coordinator, who was also a member of the study staff, screened each individual who contacted a participating NAMI affiliate with interest in FTF. She first determined whether each person was suitable for FTF program (e.g. had a family member with SMI) and interested in taking it. If so, she then also described the study, completed an initial screen for eligibility, and ascertained the person's interest in participation. She referred interested individuals to the study team. Research assistants then contacted these family members, obtained informed consent via telephone in a protocol approved by the University of Maryland Institutional Review Board, and arranged the baseline interview.

Each consented study participant completed a 60-min structured baseline telephone interview and then was randomly assigned to either the treatment condition (immediately attending FTF) or the control condition (waiting at least 3 months to attend an FTF class). Randomization was stratified by site and by randomly varying block sizes. Both groups were free to use any other NAMI, professional or community supports throughout their study

participation. All participants were recruited between March 15, 2006 and September 23, 2009. Three months after randomization (i.e. after the FTF group completed the program), a research assistant blind to participants' study condition conducted a second structured 60-min telephone interview with each participant. Participants were paid \$15 for each interview.

Nine months after randomization (6 months after the second interviews) participants *in the FTF group only* were contacted for a third structured phone interview assessment. Control group participants were not interviewed a third time because maintaining them as true 'controls' without access to FTF would have required them to wait at least 9 months after randomization to take the FTF course they desired; giving their needs for information and support this was mutually agreed to be too long a wait time.

Participants

Individuals were eligible for the study if they were 21–80 years of age, desired enrollment in the next FTF class regarding a family member or significant other with mental illness and spoke English. A total of 1168 individuals were determined eligible for the study (of 1532 screened). The most common reason for ineligibility was person's schedule not permitting their participation in the upcoming round of FTF classes if so assigned. Of these, 339 (29%) agreed to study participation. The most common reason for declining was an unwillingness to take the chance of being asked to wait several months before taking FTF if assigned to control. Furthermore, 37 additional people who were family members of potential study participants were also eligible and expressed interest in the study. From this total of 376, 322 individuals completed informed consent procedures and enrolled in the study. Of these, 318 completed the baseline interview and were randomly assigned: 160 to FTF and 158 to control. Because control condition participants were not interviewed a third time, only participants who were randomized to the FTF condition and continued in the study are included in analyses for this study ($n = 158$; two people were withdrawn after randomization).

Measures

Participant outcomes—We assessed participant distress with the Brief Symptom Inventory (BSI-18; 17) and the Center for Epidemiological Studies Depression Scale (CES-D; 18, 19). The BSI-18 is a measure of psychological distress designed for use primarily in non-clinical, community populations, with well-established reliability and validity (17). It measures level of somatization, anxiety, and depression and generates a total score of the respondent's overall level of psychological distress. The raw scores for the BSI symptom dimensions were converted to area *T*-scores based on its community male and community female norm tables. The CES-D Modified is a reliable and valid 14-item scale designed to measure depressive symptoms in the general population (18, 19).

We assessed family functioning with the Family Assessment Device (FAD) general functioning and problem-solving subscales and the Family Problem-Solving Communication Scale (FPSC). The FAD is widely used to evaluate family functioning and family relations in the context of various illnesses (20, 21). The 10-item FPSC measures positive and negative aspects of family communication patterns (22).

Indicators of problem-focused coping were evaluated with empowerment and knowledge scales. Specifically, the Family Empowerment Scale (FES) measures self-reported family (12 items), community (10 items) and service system empowerment (12 items; 23), and we assessed knowledge about mental illness using a 20-item true /false test of factual information (available from authors) covering material drawn from FTF.

Emotion-focused coping was measured in four dimensions with the COPE: social support seeking, positive reinterpretation and growth, acceptance, and denial (24). The COPE has demonstrated good reliability and validity among family members of individuals with SMI (25).

Subjective illness burden was evaluated with the FEIS (Family Experience Interview Survey) worry and displeasure subscales (26). The eight-item worry subscale asks respondents to rate their level of concern regarding various aspects of their ill relative's life. The eight-item displeasure subscale measures the participants' emotional distress around their ill relative's situation (26).

FTF attendance—The number of FTF classes attended (8.08 ± 4.27 ; range: 0–12) was collected during the first follow-up interview, 3 months after baseline.

Data analysis

Of the 158 people who were interviewed at baseline, randomized, and assigned to FTF, 133 (83%) completed the post-FTF interview 3 months after baseline and 118 (74%) also completed the third interview 6 months after that. Twelve individuals completed the 9-month assessment but not the 3-month assessment. All available data at each time point were used in the analyses. We compared the demographic characteristics of participants interviewed at 9-months to those who were not interviewed, using Chi-square and *t*-tests. We then evaluated long-term outcomes in two parts: First, we tested whether the previously reported immediate benefits (15) were maintained at the time of the third interview, 9 months after baseline. These benefits included increases in family members' problem-focused coping (as indicated by improvements on the FES Family Scale, FES Service Scale, FES Community Scale, and the knowledge test); an increase in family members' emotion-focused coping (as indicated on the COPE Acceptance Scale); a decrease in family members' psychological distress (as indicated on the BSI Anxiety Scale); and an increase in family system functioning (as indicated on the FAD Problem-Solving Scale). We used a multilevel regression model (SAS PROC MIXED, SAS Institute Inc, Cary, NC, USA) to test for significant changes over time (baseline, 3 and 9 months). A random intercept and an unstructured covariance matrix were used to account for dependencies because of repeated measures. Class was also included in the model as a random variable because participants taking the same class may be more similar in their response to the intervention than people from different classes. We considered a FTF group benefit sustained if a contrast comparing the baseline to the 9-month outcome was significant. Second, the same model described earlier, using a contrast comparing the 3- and the 9-month time points, was used to evaluate whether participants derived any *additional* benefits at 9 months that had not been present at 3 months. Third, to examine the influence of FTF class attendance on outcomes, we

included the number of classes attended and the time*class participation interaction term in models comparing outcomes from baseline to 3 and 3–9 months.

Results

Participants

Of the 158 participants randomized to FTF, 38 (24%) were men, 100 (64%) were Caucasian, 99 (63%) were married, 95 (60%) worked full time, 154 (98%) had at least a high school degree, and 106 (68%) had income >\$50 000 per year (Table 1). The mean age was 52.1 ± 10.5 years; there was an average of 3.1 ± 1.9 individuals in the household. A total of 121 (77%) described themselves as very involved with the consumer who has mental illness. The participants' relationship to the ill family member was most commonly parent ($n = 90$; 57%). Participants who were Caucasian ($\chi^2_1 = 9.51$, $P = 0.002$) very involved with the consumer ($\chi^2_1 = 5.92$, $P = 0.015$), older ($t_{156} = 2.79$, $P = 0.006$) and parents ($\chi^2_1 = 4.57$, $P = 0.033$) were more likely to be interviewed at 9 months compared with those who were lost to follow-up.

Immediate benefits sustained

Table 2 shows that all significant benefits that FTF participants gained between baseline and immediately post-FTF were sustained 6 months after post-test.

New benefits accrued

Additionally, FTF participants also reported *new* benefits at the 9-month interview. Specifically, they reported experiencing less worry ($\beta = -0.22$, $t_{100} = -3.54$, $P < 0.001$) and less displeasure ($\beta = -0.19$, $t_{100} = -2.78$, $P = 0.006$) regarding their ill relative's situation and welfare at 9 months compared with 3 months. All other variables showed no significant differences (Table 2).

Effect of attendance

Of the 130 study participants for whom we have FTF attendance data (collected at their post-FTF interview), 88% attended 9–12 of the 12 FTF class meetings, 13% attended 5–8 meetings, and 12% attended 1–4 meetings. From baseline to 3 months, significant class by time interactions were found for family ($\beta = 0.02$, $t_{100} = 2.32$, $P = 0.021$) and community ($\beta = 0.03$, $t_{205} = 2.49$, $P = 0.014$) empowerment, knowledge ($\beta = 0.74$, $t_{205} = 2.35$, $P = 0.020$), displeasure ($\beta = -0.03$, $t_{205} = -2.03$, $P = 0.044$), and depression ($\beta = -0.29$, $t_{203} = -2.17$, $P = 0.031$). The greater the number of classes a participant attended, the greater the family and community empowerment and knowledge. Family member displeasure and depression (CES-D) were significantly decreased as the number of classes attended increased. All other variables showed no significant relationship with number of classes attended. No significant interactions with class were found for the 3- to 9-month time period.

Discussion

The most important finding of this study is the persistence of FTF benefits – specifically sustained reduction in distress and increased family problem-solving skills, coping,

empowerment and knowledge – 6 months beyond the end of the program. This persistence suggests participating in the 12 once-weekly FTF classes can yield lasting real-life results for families of adults with mental illnesses, whose needs often go unmet. This is all the more notable because NAMI provides no specific maintenance or booster sessions. It is also consistent with the durability of comparable findings in Picket-Schenk's study of Journey of Hope (11), wherein analyses had advantage of a control group across all time points. This suggests that FTF and perhaps comparable programs can create lasting shifts in participants' responses to their situation and enhance their capacity for future coping. These findings corroborate those of our qualitative study in which FTF graduates described the combined effect of diverse facets of the FTF as permanently changing their understanding of and engagement with their own, their family's, and their ill family member's circumstances (16). While of course individual responses may vary, on the whole, clinicians considering referring families to FTF and individuals interested in FTF for themselves can thus view attending the course as a worthwhile investment with lasting benefits, rather than as source of temporary relief.

The *additional* reductions in subjective burden observed 6 months after FTF could have several explanations. It is possible that this result represents a regression to the mean and does not reflect the impact of FTF. However, it is also possible that it takes time for people to see the impact of using new FTF-derived skills in their daily lives, causing a lag in the reduction of worry and 'displeasure'. For example, FTF emphasizes participant self-care, empathy, and not wasting energy on things outside one's control, characteristics of both worry and displeasure. Subjective burden decreases were also found in our previous studies (13, 14). This fits with our previous qualitative findings regarding change processes among FTF graduates (16) who described themselves as deriving both immediate and time-lagged benefits from FTF. However, the absence of a control condition during this period prevents us from being sure that the changes observed were indeed owing to FTF.

Our hypothesis that greater attendance was related to greater benefits was partially supported. Greater attendance was associated with greater increases in empowerment, and greater reductions in displeasure with ill relative and depression, outcomes whose affective valence may be influenced by the sense of group cohesion and reduction in isolation produced by more attendance. In contrast, the more skill based or cognitive outcomes such as family problem-solving or knowledge were not influenced by attendance; benefit in those domains may be more specifically tied to attendance at specific classes. However, the impact of class attendance was not consistent, and just a few outcomes were significantly affected, so it is also possible that we were not adequately powered to detect the impact of class attendance on other outcomes. Overall, we know little about the processes of change associated with FTF, and future research should focus on more fully understanding these phenomena.

Taken together, these results have several implications for FTF's significance as part of the health care community. First, as a free program delivered in the community *to* family members in need *by* trained family members in the same life situation, FTF is a renewable mutual assistance resource (27). Each attendee receives help and also provides support to others and is a potential future class leader. Indeed, FTF sustains itself and continues to grow

through volunteer teachers emerging from FTF classes. Second, the persistence of FTF's benefits may have implications for the individuals with mental health problems in the families of FTF participants as well as for the participants themselves. Family psychoeducation programs that last 6–9 months or more have been shown to improve patient outcomes, including reducing relapse among persons with schizophrenia (7). The persistence of FTF program benefits over 6 months (after just 12 weeks of intervention) suggests that the skills and tools family members acquire in FTF could translate over time into enhanced family relationships and outcomes for the ill family member. Although sporadic anecdotal reports support this enthusiastically, they are not necessarily representative, so this question requires further research.

Self-help programs are assuming an increasing importance in evolving healthcare systems. They not only fill in gaps in the traditional system, but also provide a unique modality of assistance with added value, including for family members of people with mental illnesses. This study extends evidence for FTF's effectiveness and value over time in this role.

Acknowledgments

This project was supported by a grant from the National Institute of Mental Health (grant no. 1R01 MH72667-01A1). The authors acknowledge NAMI Maryland and the affiliates and teachers who contributed to the study.

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Significant outcomes

- The National Alliance on Mental Illness family-to-family program conveyed significant lasting (at least 6 months) reductions in family member distress, and improvements in family problems solving, coping, knowledge and empowerment in family members of adults with mental illnesses.
- Greater attendance was associated with greater increases in empowerment and reductions in displeasure with ill relative and depression.
- Peer-led and created information and support programs can offer sustained benefits to individuals seeking information, support and skill-building in coping with stressful and challenging life situations.

Limitations

- The study's control group was not assessed at 6-month follow-up, so data from participants in the FTF condition between the 3- and 9-month time points cannot be compared with control.
- Of the 158 individuals who were randomized to FTF in the main study, 17% were lost to follow-up at the 3-month time point, and 26% were lost at the 9-month time point.

Table 1

Study participants (family to family treatment group sample)

	Overall			Completed M9 interview			Comparison		
	(N = 158)			Yes (N = 118)			No (N = 40)		
	N reporting	n (%) or mean		N reporting	n (%) or mean		N reporting	n (%) or mean	
Site of collection									
Balt Metro /Pg county	158	64 (40.5)		118	47 (39.8)		40	17 (42.5)	3.20* 3 0.362
Montgomery county		45 (28.5)			31 (26.3)			14 (35.0)	
Frederick county		25 (15.8)			22 (18.6)			3 (7.5)	
Howard county		24 (15.2)			18 (15.3)			6 (15.0)	
Age (year)	158	52.1±10.5		118	53.4±10.2		40	48.2±10.4	-2.79 [†] 156 0.006
Male	158	38 (24.1)		118	29 (24.6)		40	9 (22.5)	0.07* 1 0.791
White	156	100 (64.1)		117	83 (70.9)		39	17 (43.6)	9.51* 1 0.002
Consumer belong to the same race group	158	142 (89.9)		118	108 (91.5)		40	34 (85.0)	0.11 [†] 0.238
Consumer race is white	156	92 (59.0)		117	74 (63.2)		39	18 (46.2)	3.53* 1 0.060
Very involved with consumer	158	121 (76.6)		118	96 (81.4)		40	25 (62.5)	5.92* 1 0.015
Past month, more /about the same involvement	157	133 (84.7)		117	102 (87.2)		40	31 (77.5)	2.16* 1 0.142
Married or living as if married	158	99 (62.7)		118	77 (65.3)		40	22 (55.0)	1.34* 1 0.247
Completed 12 years education	154	154 (97.5)		118	116 (98.3)		40	38 (95.0)	0.22 [†] 0.266
% currently in school or college	19	19 (12.0)		118	14 (11.9)		40	5 (12.5)	0.22 [†] 1.00
% work full time	95	95 (60.1)		118	71 (60.2)		40	24 (60.0)	0.00* 1 0.985
Total people in household	158	3.1±1.9		118	3.0±1.6		40	3.4±2.7	0.44 [‡] 0.658
% family income >\$50 000	156	106 (67.9)		117	82 (70.1)		39	24 (61.5)	0.98* 1 0.322

This table describes the family members who were study participants, unless 'consumer' is used to denote description of the participant's relative who has a mental illness. Bold values indicates $p < 0.05$.

* Chi-square test.

[†] T-test.[‡] Wilcoxon test.

Fisher exact.

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Table 2

Mean family-to-family outcome scores at three time points

	Baseline (N = 158)		3 Month (N = 133)		9 Month (N = 118)		M9 vs. baseline				M9 vs. M3			
	Mean		Mean		Mean		B (SE)	df	t	P	B (SE)	df	t	P
Family Empowerment Scale, family	3.44 (±0.60)		3.68 (±0.62)		3.70 (±0.58)		0.24 (0.04)	100	5.47	<0.001	-0.01 (0.05)	100	-0.12	0.902
Family Empowerment Scale, services	3.17 (±0.87)		3.43 (±0.80)		3.35 (±0.81)		0.15 (0.06)	100	2.68	0.009	-0.10 (0.06)	100	-1.73	0.086
Family Empowerment Scale, community	2.56 (±0.77)		2.90 (±0.77)		2.95 (±0.77)		0.33 (0.05)	100	6.46	<0.001	-0.00 (0.05)	100	-0.04	0.970
Knowledge	58.38 (±18.09)		65.45 (±16.90)		66.22 (±16.53)		6.65 (1.25)	100	5.33	<0.001	1.19 (1.30)	100	0.92	0.360
Cope Positive Scale	11.77 (±2.93)		11.93 (±2.59)		12.37 (±2.54)		0.53 (0.20)	100	2.64	0.010	0.27 (0.21)	100	1.31	0.192
Cope Denial Scale	4.97 (±1.51)		4.70 (±1.29)		4.75 (±1.47)		-0.21 (0.14)	100	-1.55	0.124	0.01 (0.14)	100	0.04	0.969
Cope Religious Scale	11.66 (±4.41)		11.25 (±4.46)		11.78 (±4.47)		-0.02 (0.19)	100	-0.10	0.917	0.24 (0.20)	100	1.22	0.227
Cope Emotional Scale	12.08 (±3.34)		12.19 (±3.27)		12.44 (±3.20)		0.24 (0.25)	100	0.98	0.332	0.10 (0.26)	100	0.38	0.705
Cope Acceptance Scale	12.90 (±2.33)		13.65 (±2.00)		13.74 (±1.90)		0.75 (0.19)	100	3.90	<0.001	0.03 (0.20)	100	0.13	0.896
FEIS Worry Scale *	2.59 (±0.80)		2.38 (±0.82)		2.25 (±0.85)		-0.40 (0.06)	100	-6.63	<0.001	-0.22 (0.06)	100	-3.54	<0.001
FEIS Displeasure Scale *	2.73 (±0.79)		2.45 (±0.79)		2.25 (±0.75)		-0.47 (0.07)	100	-7.23	<0.001	-0.19 (0.07)	100	-2.78	0.006
CESD total †	8.30 (±7.15)		7.46 (±6.97)		7.17 (±6.26)		-0.97 (0.58)	97	-1.67	0.098	0.12 (0.60)	97	0.20	0.840
Brief Symptom Inventory, Global Severity Index	51.90 (±9.21)		50.11 (±8.89)		49.42 (±8.80)		-2.19 (0.74)	100	-2.95	0.004	-0.41 (0.77)	100	-0.54	0.590
Brief Symptom Inventory, Somatization Scale	48.85 (±8.57)		48.65 (±8.87)		48.60 (±8.37)		0.25 (0.74)	100	0.34	0.737	0.19 (0.76)	100	0.25	0.801
Brief Symptom Inventory, Depression Scale	51.92 (±9.36)		50.36 (±8.90)		49.15 (±8.77)		-2.85 (0.80)	100	-3.58	<0.001	-1.19 (0.82)	100	-1.44	0.152
Brief Symptom Inventory, Anxiety Scale	52.47 (±9.18)		50.47 (±8.09)		50.15 (±8.68)		-2.04 (0.71)	100	-2.87	0.005	-0.01 (0.74)	100	-0.02	0.984
Family Assessment Device, General Functioning	24.76 (±6.38)		24.08 (±5.97)		22.93 (±6.02)		-1.58 (0.49)	99	-3.24	0.002	-0.94 (0.51)	99	-1.85	0.067
Family Assessment Device, Problem-Solving	12.83 (±2.93)		12.11 (±2.61)		12.25 (±2.85)		-0.50 (0.21)	99	-2.36	0.020	0.28 (0.22)	99	1.25	0.215
FPSC Scale Affirming Communication ‡	10.82 (±2.68)		10.97 (±2.88)		10.82 (±2.86)		-0.07 (0.23)	99	-0.31	0.759	-0.34 (0.24)	99	-1.42	0.160
FPSC Scale Incendiary Communication ‡	5.86 (±3.31)		4.94 (±3.21)		5.23 (±3.01)		-0.51 (0.26)	100	-1.96	0.053	0.43 (0.27)	100	1.62	0.108

FPSC, Family Problem-Solving Communication.

* Family Experience Interview Survey.

† CESD, Center for Epidemiological Studies Depression scale.

‡ Family Problem-Solving Communication.