Mindfulness (2011) 2:95–102
DOI 10.1007/s12671-011-0047-4

ORIGINAL PAPER

A Pilot Investigation of Mindfulness-Based Stress Reduction for Caregivers of Frail Elderly

Gary Epstein-Lubow · Lucia McBee · Ellen Darling · Michael Armey · Ivan W. Miller

Published online: 8 February 2011

Abstract Family caregivers may experience psychiatric symptoms associated with the chronic stress of caring for frail elderly. Mindfulness training may mitigate some of the negative health effects related to caregiving, but the relevant literature is sparse. We present data from a small pilot study of mindfulness training for caregivers of frail elderly. Nine women caregivers between the ages of 48 to 73 participated. Eight weekly classes of mindfulness-based stress reduction were minimally adapted to enhance the potential benefits for caregivers. Measures of depressive symptoms, burden, perceived stress, anxiety, general health, and mindfulness were assessed at baseline, at completion of the intervention, and at a 1-month follow-up. Self-reported depression, perceived stress, and burden decreased during the 8-week intervention with further reduction demonstrated after a 1-month follow-up regarding stress and burden while depressive symptoms returned to baseline level. Mindful attention and calmness increased over the course of the study. Qualitatively, participants reported continued use of acquired skills and personal benefits from the training. These preliminary results are supportive of the development of larger controlled trials of mindfulness training for caregivers. Future studies may consider identifying subpopulations of caregivers most likely to benefit from mindfulness, and the potential need for a continuation phase of active group participation following the 8-week training.

Keywords Caregiving · Depression · Elderly · Mindfulness · Stress

G. Epstein-Lubow (✉) · M. Armey · I. W. Miller
The Alpert Medical School of Brown University and Butler Hospital,
345 Blackstone Boulevard,
Providence, RI 02906, USA
e-mail: Gary_Epstein-Lubow@Brown.edu

L. McBee
The Jewish Home and Hospital,
New York, NY, USA

E. Darling
Butler Hospital,
Providence, RI, USA

Introduction

Mindfulness-based stress reduction (MBSR) is a structured 8-week psychoeducational program initially developed for patients with chronic pain and stress-related conditions (Carmody and Baer 2008; Ludwig and Kabat-Zinn 2008; Santorelli 2007). Family caregiving is a common practice frequently associated with significant stress. Caregivers assisting cognitively impaired elderly family members typically struggle with the greatest severity of caregiving-related concerns. Specifically, dementia caregivers are at significant risk for psychological symptoms including depression and anxiety (Schulz and Martire 2004) and are vulnerable to greater medical problems including an increased risk for death (Schulz and Sherwood 2008). Intervention research has demonstrated successes regarding reduction of depressive and other symptoms during caregiving, although methodological concerns do limit the generalizability of previous findings (Zarit and Femia 2008). The need continues for simple and transportable interventions, but few studies have been reported regarding stress reduction training for caregivers (Epstein-Lubow et al. 2006; Franco et al. 2010).

Teaching skills that foster mindfulness may offer promise as one approach to reduce symptoms associated

with the chronic stress of caregiving. The skills taught during mindfulness training may potentially result in both direct effects at symptom reduction, and a lowering of risk for subsequent depressive illness that can occur following continued exposure to high burden (Epstein-Lubow et al. 2008). Elderly individuals may gain particular benefits from the integrative "whole person" approach to health that is suggested through mindfulness training (Rejeski 2008). Previously published reports of similar interventions for dementia caregivers include qualitative data describing the potential benefits of MBSR (McBee 2003, 2008), an empirical study of yoga and meditation for female caregivers, which demonstrated reduction in depressive and anxious symptoms and improved self-efficacy (Waelde et al. 2004), and a report of reduced psychological discomfort in family caregivers of patients with Alzheimer's disease (Franco et al. 2010). Franco et al.'s investigation randomized 36 family caregivers to either a mindfulness training program or a control condition. The participants showed improved psychological symptoms during active treatment compared to control participants, but the gains were not maintained at a 4-month follow-up. In addition to these few reports of mindfulness training for caregivers of individuals with dementia, there is a growing number of reports regarding mindful caregiving in other settings.

Kabat-Zinn and Kabat-Zinn (1997) first described mindful caregiving for a modern audience in their popular book *Everyday Blessings*. In recent years, several publications have appeared regarding small samples, in which a mindfulness approach to care provision was empirically studied. In an early study, Singh et al. (2004) reported an investigation in which professional caregivers of three individuals with profound developmental disabilities were provided mindfulness-based training. Results showed that patient happiness increased in response to supervision from caregivers who received the mindfulness training. In a similar study with group home caregivers, patient learning improved and aggression decreased in response to mindful professional caregivers (Singh et al. 2006). When parents of children with developmental disabilities were taught mindfulness-based procedures, parents reported increased satisfaction with care provision and improved ability to reduce aggressive behaviors in their children, while their children showed greater positive and fewer negative social interactions with siblings (Singh et al. 2007). Also, positive outcomes for patients and caregivers resulted as a consequence of mindfulness-based training for a clinical treatment team in an inpatient psychiatric setting (Singh et al. 2006). Similar to Singh et al.'s (2007) work with parents, a moderate-sized trial in which 44 family caregivers of children with a chronic medical condition, mostly asthma or diabetes, participated in an 8-week MBSR program showed a significant decrease in caregiver stress and a significant improvement in caregiver mood (Minor et al. 2006).

It is important to note that all reports described here were conducted with individuals living in either the United States, Canada, or Spain, where study and practice of mindfulness are relatively new cultural phenomena. It is likely that mindful caregiving, although not described as such, is widely practiced in countries where mindfulness is culturally normative. One anthropological report of this kind is available from Thailand, in which Sethabouppha and Kane (2005) interviewed 15 Thai Buddhist family caregivers. These interviews resulted in their description of mindful caregiving as including themes related to (1) Buddhist religious beliefs, (2) the management of stressful situations, (3) compassion, (4) acceptance, and (5) suffering.

As interest in mindful caregiving grows, efforts to quantify the potential benefits and risks must continue. Supportive reports suggest mindfulness-based interventions are acceptable, safe, and effective for elderly adults (Smith 2004); however, Franco et al.'s (2010) describe initial gains that were not maintained for dementia caregivers trained in mindfulness. Given the need to develop low-cost and accessible interventions for chronically stressed caregivers of frail and cognitively impaired elderly, we conducted a pilot study of MBSR for this population. The primary hypotheses were that MBSR instruction with minor adaptations from the standard protocol would be acceptable to busy and distressed caregivers and that the 8-week intervention would reduce depressive symptoms and the perception of burden.

Method

Participants

Participants were recruited from a diverse nursing home and home care clinical setting in a busy metropolitan area. Participants were required to be adult (over 18 years of age) and actively devoting at least 20 h every week to caring for an elderly individual with cognitive or other significant functional impairment. The participants included nine women caregivers aged 48 to 73 (mean age=56.2, SD 7.7): six Caucasians and three African Americans. Seven participants were caring for a parent, and two participants cared for an ill husband. Seven of the care recipients had diagnosis of dementia and two were frail due to severe medical conditions. The study was not designed specifically to recruit women; one male individual did attend an introductory session but choose not to participate and did not complete assessments.

Affiliated institutional review boards approved the study protocol.

Measures

The primary clinical variable was depressive symptoms as assessed by the Center for Epidemiological Studies depression scale (CES-D; Radloff and Teri 1986). The 20-item version of the CES-D was used, which has been shown to have high sensitivity and specificity for major depression (Beekman et al. 1997). Additional clinical measures were chosen to broadly capture symptoms other than depression that may be associated with caregiving, while also attempting to minimize the overall research burden for the participants. These measures included the Zarit burden interview (ZBI; Zarit et al. 1980), the state-trait anxiety inventory (STAI; Spielberger et al. 1970), the inventory of complicated grief, preloss version (ICG; Prigerson et al. 1995), the perceived stress scale (PSS; Cohen and Williamson 1988), and the Medical Outcomes Study 36-item short-form health survey (SF-36; Ware et al. 1996). Each of these measures has been demonstrated to have acceptable psychometric properties. Regarding SF-36, due to the small sample size and the current study's focus on mental health symptoms, the single-item raw score for general health, the two items comprising the mental health subscale score ["calm" (SF-6a) and "downhearted" (SF-6c)], and one item related to careful activity (SF-4a) were used rather than a scaled score for the full measure. Mindfulness was assessed with the Kentucky inventory of mindfulness skills (KIMS; Baer et al. 2004). The KIMS assesses four factors or facets of mindfulness including observing, describing, acting with awareness, and accepting without judgment. Although there has been further refinement of the KIMS and other mindfulness self-report measures (Baer et al. 2006, 2008), at the time of this investigation, the original KIMS was available for use. All measures were collected at baseline (week 0), after 8 weeks of active participation (week 8), and at a 4-week follow-up (week 12). In addition, the CES-D and KIMS were completed at the 4-week midpoint of active treatment (week 4).

Intervention

Following informed consent, participants completed a group-based 8-week MBSR program similar to the standard MBSR, but tailored to fit the daily responsibilities of family caregivers. The MBSR intervention was conducted by one of the co-authors (LM). The standard MBSR curriculum consists of eight weekly classroom meetings, each lasting approximately 90 min, in which participants are (1) instructed regarding the background and rationale for using mindfulness exercises, (2) guided through specific techniques designed to promote and foster the experience of mindfulness in daily life, and (3) encouraged to complete specific daily homework exercises prior to returning to class the following week (Carmody and Baer 2008; Kabat-Zinn 1982, 1990).

The MBSR intervention for the current investigation contained the elements listed above and adhered to the MBSR general structure of teaching stepped mindfulness skills beginning with exercises to focus attention on body and breath (i.e., "body scan" and "awareness of breath" meditations) followed by increasing attention to body movement (yoga) and gentle introductions to Vipassana-style seated meditation. In order to tailor this standard framework to caregivers of frail elderly, the first adaptation was to increase classroom discussion regarding caregiving. When examples of stressful situations were needed to illustrate how mindfulness training can be applied in daily life, these examples typically focused on aspects of caregiving. Other adaptations included a reduced classroom session length of approximately 75 min, and the total amount of expected home-based practice was reduced from 45 min in standard MBSR to 30 min daily. Standard MBSR courses traditionally contain one 6-h extended class, which was not included in this intervention due to the difficulty of coordinating caregivers' schedules. Standard MBSR typically does not include specific instruction in loving-kindness and forgiveness meditation, which were added to this intervention based on previous reports from caregivers in other mindfulness training programs regarding the benefits of these practices (McBee 2008).

Data Analyses

Demographic variables were assessed. Mean and standard deviation values for all clinical measures and for mindfulness were calculated, and effect size estimates were generated for depression, burden, stress, anxiety, and grief. Correlation analyses were conducted to assess the associations between clinical measures and mindfulness. Repeated-measures analyses of variance (ANOVAs) were used to assess change over time regarding clinical symptoms and mindfulness. Qualitative reports from participants were also reviewed.

Results

Clinical Effect Size Estimates

Mean and standard deviation scores for all primary measures as assessed at baseline, week 8, and week 12 are shown in Table 1. At baseline, participants reported mild to moderate depression severity with a mean CES-D of 16.2 (12.9). Depression severity decreased during the intervention, with an estimated effect size for depression during active treatment of 0.29, suggesting mild improve-

Table 1 Symptoms as measured over time

Measure	Active treatment			*F*/*U*=12 weeks
	Baseline	Mid=4 weeks	Post=8 weeks	
Depression (CES-D)	16.6 (12.9)	15.1 (5.7)	13.7 (7.4)	17.2 (13.2)
Burden (ZBI)	36.8 (12.5)		32.5 (13.7)	29.5 (10.5)
Anxiety (STAI)	23.4 (17.4)		23.2 (14.5)	19.4 (18.8)
Grief (ITG)	17.6 (10.0)		17.0 (9.7)	15.7 (8.9)
Perceived stress (PSS)	26.7 (5.2)		25.7 (8.0)	22.4 (9.2)
Mindfulness (KIMS)	135.3 (14.4)	133.9 (15.0)	133.1 (15.2)	131.1 (11.1)
General health (SF-1)	2.0 (.9)		2.6 (.5)	2.4 (.7)
Calm (SF-6a)	1.3 (.7)		2.2 (.7)	2.1 (1.2)
Downhearted (SF-6c)	2.2 (.7)		1.1 (.4)	1.7 (1.0)

ment [CES-D: Pre: 16.6 (12.9), 8 weeks: 13.7 (7.4)], as shown in Table 2. In addition, all participants with a CES-D score>21 at baseline (n=3) showed a reduction of nine or more points on the CES-D at the end of active treatment. At week 12, mean CES-D returned to pretreatment levels, as shown in Table 1. A similar pattern of depressive symptom improvement during active treatment, followed by a return to pretreatment levels following the intervention, was shown in the specific variable of "downhearted" or depressed mood from SF-12 [SF-6c: Pre: 2.2 (.7), 8 weeks: 1.1 (.4), 12 weeks: 1.7 (1.0)], with an effect size estimate from baseline to 8 weeks of 2.0, suggesting considerable improvement. Beneficial symptom change was also seen regarding the variable "calm" (SF-6a), as shown in Table 1.

Eight of the nine participants scored above the ZBI cutoff for probable depression (ZBI>23) at baseline and ZBI had not increased for any of these participants at 12 weeks. Five participants showed a reduction on the ZBI of nine or more points from baseline to 12 weeks. Estimated effect sizes were small to medium after 12 weeks, with the larger effects demonstrated for SF-12 items, burden, and perceived stress, as shown in Table 2.

Correlation Analyses

Correlations at the 8-week assessment point and the 12-week follow-up were similar, with increased strengths of association at 12 weeks. Correlations at 12 weeks are shown in Table 3. Although the overall score on the KIMS was not significantly associated with any symptoms measure, the KIMS subscale of "acting with awareness (KA)" was inversely correlated with all symptom measures and significantly correlated with reduced perceived stress.

Repeated-Measures Anovas

In order to explore patterns of change in study variables from initial assessment to follow-up, a series of repeated-measures ANOVAs were conducted (see Fig. 1). Given our interest in nonlinear (e.g., quadratic and cubic) as well as linear effects, we chose to report the results of within-subjects contrasts. A statistically significant cubic contrast was found for CES-D scores, $F(1,6)=34.01$, $p = .001$, $\eta^2=0.85$, such that participants experienced a reduction of depressive symptoms during active treatment followed by

Table 2 Estimated effect sizes for depression and other primary measures

Measure	Active treatment		Effect size
	Baseline	Post=8 weeks	
Depression (CES-D)	16.6 (12.9)	13.7 (7.4)	0.29
Downhearted (SF-6c)	2.2 (.7)	1.1 (.4)	2.00
Calm (SF-6a)	1.3 (.7)	2.2 (.7)	1.29
Measure	**Active treatment and follow-up**		**Effect size**
	Baseline	*F*/*U*=12 weeks	
Burden (ZBI)	36.8 (12.5)	29.5 (10.5)	0.63
Anxiety (STAI)	23.4 (17.4)	19.4 (18.8)	0.22
Grief (ITG)	17.6 (10.0)	15.7 (8.9)	0.20
Perceived stress (PSS)	26.7 (5.2)	22.4 (9.2)	0.60

Table 3 Correlations of primary measures at follow-up (12 weeks)

Measures	ZBI	STAI	ITG	PSS	KIMS	KA	SF-1	SF-6a	SF-down
Depression (CESD)	.63 (.09)	.97 (.00)**	.26 (.53)	.74* (.04)	.31 (.49)	−.69 (.08)	−.41 (.32)	−.95** (.000)	.86** (.006)
Burden (ZBI)		.66 (.07)	.15 (.73)	.62 (.10)	.61 (.11)	−.42 (.35)	.10 (.81)	−.55 (.16)	.51 (.20)
Anxiety (STAI)			.43 (.28)	.73* (.04)	−.08 (.83)	−.69 (.08)	−.43 (.29)	−.91 (.001)	.81* (.01)
Grief (ITG)				.30 (.48)	.10 (.80)	−.47 (.28)	−.20 (.63)	−.13 (.77)	−.01 (.98)
Perceived stress (PSSI)					.43 (.29)	−.919** (.003)	−.09 (.84)	−.72* (.05)	.68 (.06)
Mindfulness (KIMS)						−.618 (.14)	.43 (.33)	−.25 (.58)	.28 (.54)
KIMS awareness (KA)							.20 (.67)	.65 (.11)	−.60 (.15)
General health (SF-1)								.40 (.32)	−.23 (.58)
Calm (SF-6a)									−.97** (.000)

The abbreviation "SF-down" refers to item 6c on SF-12 regarding an experience of downhearted mood

*$p < .05$; **$p < .01$

return to baseline. A similar statistically significant quadratic constant was identified regarding the "downhearted" or depressed mood variable (SF-6c; "Have you felt downhearted and blue?") from SF-12, $F(1,6)=11.11$, $p = .016$, $\eta^2=0.65$, showing that participants experienced a reduction of depressive symptoms during active treatment followed by a return toward baseline after completing the intervention.

A significant linear contrast was found for ZBI scores, $F(1,7)=14.05$, $p = .007$, $\eta^2=0.67$, indicating a reduction in experienced burden from the initial to follow-up assessment. Another significant linear contrast was found for the mental health item "calm" (SF-6a), $F(1,6)=10.80$, $p = .017$, $\eta^2=0.64$, indicating an increase in the sense of being "calm and peaceful" from the baseline to follow-up assessment. Although failing to meet the criteria for statistical significance, PSS scores trended toward a statistically significant linear contrast, $F(1,7)=5.11$, $p = .058$, $\eta^2=0.42$, suggesting a reduction in self-reported stress over the course of the intervention. No statistically significant repeated-measures effects were found for the ICG, STAI, or the general health items from SF-12.

Regarding mindfulness, no statistically significant repeated measures were found for the KIMS total score and three KIMS subscales; however, the KIMS act with awareness subscale did show a significant quadratic contrast, $F(1,5)=6.82$, $p = .048$, $\eta^2=0.58$, suggesting that participants experienced themselves as acting with less awareness during the first portion of the intervention followed by the experience of acting with more awareness as time continued. To further explore the concept of acting with awareness, an analysis was conducted with the one item on SF-12 related to mindful action; item SF-4b ("Didn't do work or other activities as carefully as usual as a result of any emotional problems."), which showed a significant linear effect, $F(1,6)=10.50$, $p = .018$, $\eta^2=0.64$, suggesting the experience of completing tasks with increasingly more careful attention over time.

Qualitative Results

Participants provided written comments following class experiences and also provided informal verbal feedback to the MBSR instructor. Structured qualitative interviews were not conducted. There was universal agreement among participants regarding receiving the greatest benefit from specific mindfulness exercises designed to foster compassion and forgiveness. Caregivers described the desire to accept their loved one's situation "as is" rather than as one might wish it to be. Caregivers also reported increased ability to comfortably "be present with" the care recipient, adding further support to the significant results regarding mindful action, careful attention, and their possible correlation with reduced caregiver symptoms. At week 12

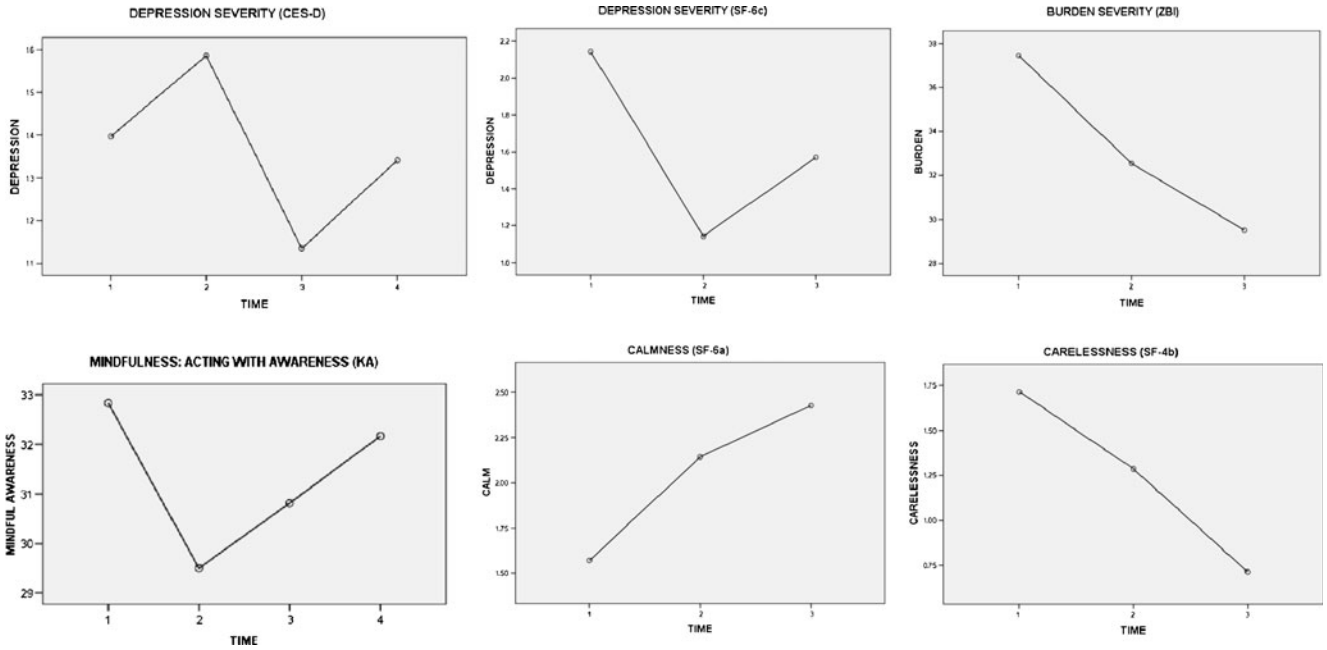

Fig. 1 Repeated-measures analyses regarding significant changes over time in depressive symptoms, burden, mindful awareness, experiences of calmness, and acting with careful attention. For the two variables where four time points are available (CES-D and KA), time refers to 1 = baseline, 2 = 4 weeks of active treatment, 3 = 8 weeks of active treatment, and 4 = 12-week follow-up. For the four variables where only three time points are available (SF-4c, ZBI, SF-6a and SF-4b), time refers to 1 = baseline, 2 = 8 weeks of active treatment, and 3 = 12-week follow-up. All findings are significant as described in the "Repeated-measures ANOVAs"

assessment, all participants reported continued use of mindfulness-based exercises. Although the caregivers were able to practice mindfulness skills independently, the consensus was that continued group education beyond 8 weeks would have produced added benefit.

Discussion

Results from our pilot study are consistent with other reports of positive clinical and empirical findings related to mindful caregiving. Specifically, depressive symptoms, as assessed by multiple measures, improved during this intervention. Few participants had clinically significant symptoms at the start of the intervention and, at the end of active treatment, the mean score for depression severity was reduced to considerably below the CES-D clinical cutoff for mild symptoms. Depressive symptoms returned to baseline levels 4 weeks after completing the intervention, while clinical symptoms in other spheres showed continued improvement.

Mindfulness, as assessed by the KIMS, did not change during treatment; however, the subscale regarding acting with awareness showed a significant cubic effect, in which participants reported an initial reduction in this aspect of mindfulness, followed by increased acting with awareness over time. Careful attention to activities, as assessed by item 4a on SF-12, also increased with time. Mindfulness is a complex construct. The ability to self-report regarding one's own experience of mindful activity may change with greater self-knowledge regarding the nature of mindfulness; hence, as participants learn more about mindfulness and ways to foster these experiences in daily life, one's self-report of being regularly mindful may decrease while the actual frequency of mindful experiences may be increasing. This limitation is inherent to all self-report instruments and is particularly cumbersome when a measure requires the completer to learn or know something about the construct being measured in order to, in an informed way, reliably report about one's experience.

This study has several limitations. The sample size is small, and, as a pilot open study, no control comparison condition was included. The repeated-measures analysis does allow for modest assessment of change over time for individuals; however, without a control condition, it is difficult to draw conclusions regarding specific effects resulting from the intervention. The participants included only women, and it is possible that the homogeneity of female caregivers added strength to the intervention beyond what would occur in a mixed-gender group. In addition, these results cannot necessarily be extrapolated to male caregivers. Underlying statistical assumptions of the ANOVA test are strict regarding missing data, so the already small sample size of nine had to be further reduced

in order to complete these analyses. Rival hypotheses regarding the positive findings in this study are that outcomes may be related solely to attention from the group leader, and statistical results could be type I errors explained by regression to the mean or completion of multiple tests.

While noting the limitations, our results do present a cohesive picture that is consistent with the participants' qualitative reports and with other published studies. Our results show modest positive change for depressive symptoms as assessed by two separate measures, with additional significant benefits regarding reduced burden and greater mindful attention to activities. This is consistent with Franco et al.'s (2010) investigation that included a larger sample and a control condition. Also, as found in the Franco et al. study, following completion of active treatment, depressive symptoms returned toward baseline values.

In summary, our study adds to the current literature both caution and optimism. Eight weeks of group-based education may not provide the foundation necessary for longitudinal mitigation of depressive symptoms in caregivers, and MBSR in a standard or minimally adapted form may fall short of the protection shown to result from comprehensive longitudinal dementia caregiver intervention programs (Gitlin et al. 2003; Mittelman et al. 2004). Nevertheless, continued investigation of mindfulness training for caregivers shows promise and is likely to result in the development of new effective psychosocial treatment options for this high-risk group.

Acknowledgment Portions of the data reported in this paper were presented at two annual meetings: the American Association for Geriatric Psychiatry, New Orleans, LA, March 2007 and the Center for Mindfulness in Medicine, Health Care and Society, Worcester, MA, April 2007. Butler Hospital and the Jewish Home and Hospital supported this investigation.

References

Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: the Kentucky inventory of mindfulness skills. *Assessment, 11*(3), 191–206.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45.

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., et al. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment, 15*(3), 329–342.

Beekman, A. T., Deeg, D. J., & Limbeek, J. (1997). Center for Epidemiologic Studies depression scale had high sensitivity and specificity for major depression in older adults. *Psychological Medicine, 27*, 231–235.

Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine, 31*(1), 23–33.

Cohen, S., & Williamson, G. M. (1988). Perceived stress in a probability sample of the United States. In S. Spaccapan & S. Oskamp (Eds.), *The social psychology of health* (pp. 31–67). Newbury Park, CA: Sage.

Epstein-Lubow, G. P., Miller, I. W., & McBee, L. (2006). Mindfulness training for caregivers. *Psychiatric Services, 57*(3), 421.

Epstein-Lubow, G., Davis, J. D., Miller, I. W., & Tremont, G. (2008). Persisting burden predicts depressive symptoms in dementia caregivers. *Journal of Geriatric Psychiatry and Neurology, 21*(3), 198–203.

Franco, C., Sola Mdel, M., & Justo, E. (2010). Reducing psychological discomfort and overload in Alzheimer's family caregivers through a mindfulness meditation program. *Revista Española de Geriatría y Gerontología, 45*(5), 252–258.

Gitlin, L. N., Belle, S. H., Burgio, L. D., Czaja, S. J., Mahoney, D., Gallagher-Thompson, D., et al. (2003). Effect of multicomponent interventions on caregiver burden and depression: the REACH multisite initiative at 6-month follow-up. *Psychological Aging, 18*(3), 361–374.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*(1), 33–47.

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your mind to face stress, pain and illness*. New York: Dell.

Kabat-Zinn, J., & Kabat-Zinn, M. (1997). *Everyday blessings: The inner work of mindful parenting*. New York: Hyperion.

Ludwig, D. S., & Kabat-Zinn, J. (2008). Mindfulness in medicine. *Journal of the Americn Medical Association, 300*(11), 1350–1352.

McBee, L. (2003). Mindfulness practice with the frail elderly and their caregivers. *Topics in Geriatric Rehabilitation, 19*(4), 257–264.

McBee, L. (2008). *Mindfulness-based elder care: A CAM model for frail elders and their caregivers*. New York: Springer.

Minor, H. G., Carlson, L. E., Mackenzie, M. J., Zernicke, K., & Jones, L. (2006). Evaluation of a mindfulness-based stress reduction (MBSR) program for caregivers of children with chronic conditions. *Social Work in Health Care, 43*(1), 91–109.

Mittelman, M. S., Roth, D. L., Coon, D. W., & Haley, W. E. (2004). Sustained benefit of supportive intervention for depressive symptoms in caregivers of patients with Alzheimer's disease. *The American Journal of Psychiatry, 161*(5), 850–856.

Prigerson, H. G., Maciejewski, P. K., Reynolds, C. F., III, Bierhals, A. J., Newsom, J. T., Fasiczka, A., et al. (1995). Inventory of complicated grief: a scale to measure maladaptive symptoms of loss. *Psychiatry Research, 59*(1–2), 65–79.

Radloff, L. S., & Teri, L. (1986). Use of the center for epidemiological studies: depression scale with older adults. *Clinical Gerontologist, 5*, 119–137.

Rejeski, W. J. (2008). Mindfulness: reconnecting the body and mind in geriatric medicine and gerontology. *The Gerontologist, 48*(2), 135–141.

Santorelli, S. F. (2007). Mindfulness and medicine. *Explore (NY), 3*(2), 136–144.

Schulz, R., & Martire, L. M. (2004). Family caregiving of persons with dementia: prevalence, health effects, and support strategies. *American Joural of Geriatric Psychiatry, 12*(3), 240–249.

Schulz, R., & Sherwood, P. R. (2008). Physical and mental health effects of family caregiving. *The American Journal of Nursing, 108*(9 Suppl), 23–27.

Sethabouppha, H., & Kane, C. (2005). Caring for the seriously mentally ill in Thailand: Buddhist family caregiving. *Archives of Psychiatric Nursing, 19*(2), 44–57.

Singh, N. N., Lancioni, G. E., Winton, A. S., Wahler, R. G., Singh, J., & Sage, M. (2004). Mindful caregiving increases happiness

among individuals with profound multiple disabilities. *Research in Developmental Disabilities, 25*(2), 207–218.

Singh, N. N., Singh, S. D., Sabaawi, M., Myers, R. E., & Wahler, R. G. (2006). Enhancing treatment team process through mindfulness-based mentoring in an inpatient psychiatric hospital. *Behavior Modification, 30*(4), 423–441.

Singh, N. N., Lancioni, G. E., Winton, A. S., Curtis, W. J., Wahler, R. G., Sabaawi, M., et al. (2006). Mindful staff increase learning and reduce aggression in adults with developmental disabilities. *Research in Devevelopmental Disabilities, 27*(5), 545–558.

Singh, N. N., Lancioni, G. E., Winton, A. S., Singh, J., Curtis, W. J., Wahler, R. G., et al. (2007). Mindful parenting decreases aggression and increases social behavior in children with developmental disabilities. *Behavior Modification, 31*(6), 749–771.

Smith, A. (2004). Clinical uses of mindfulness training for older people. *Behavioural and Cognitive Psychotherapy, 32*, 423–430.

Spielberger, C. D., Gorusch, R. R., & Luchene, R. E. (1970). *State-trait anxiety inventory*. Palo Alto, CA: Consulting Psychologists Press.

Waelde, L. C., Thompson, L., & Gallagher-Thompson, D. (2004). A pilot study of a yoga and meditation intervention for dementia caregiver stress. *Journal of Clinical Psychology, 60*(6), 677–687.

Ware, J., Jr., Kosinski, M., & Keller, S. D. (1996). A 12-item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Medical Care, 34*(3), 220–233.

Zarit, S. H., & Femia, E. E. (2008). A future for family care and dementia intervention research? Challenges and strategies. *Aging & Mental Health, 12*(1), 5–13.

Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the impaired elderly: correlates of feelings of burden. *The Gerontologist, 20*(6), 649–655.