Mindfulness (2017) 8:1319–1327
DOI 10.1007/s12671-017-0707-0

ORIGINAL PAPER

Cultivating Emotional Balance in Professional Caregivers: a Pilot Intervention

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Published online: 2 May 2017

Abstract Cultivating Emotional Balance (CEB) is an evidenced-based Mindfulness and Compassion-Based Intervention (MCBI) designed to reduce destructive, negative emotional experiences toward oneself and others and to promote skills for experiencing and expressing emotions constructively. The aim of this pilot study was to run a CEB program for professional caregivers of patients with intellectual disability (n = 19, 18 female, mean age = 40.47). Psychometrically validated instruments for the assessment of mindfulness, self-care, emotion regulation, and self-compassion were used. Within the pilot data, preliminary multivariate analysis of variance pointed in the direction of meaningful increases in both the five facets of mindfulness and decentering. Additional analyses suggest that the pilot intervention can improve self-care self-compassion while reducing symptoms of depression, anxiety, panic, and somatized illness. The pilot findings suggest that CEB may not only help to enhance the regulation of emotional states but could also be associated with improvement of mindfulness, self-care, and self-compassion. New interventions with a randomized control design are encouraged to further examine the benefits of the MCBI with this important population of caregivers supporting people with intellectual disabilities.

Keywords Cultivating Emotional Balance intervention · Professional caregivers · Mindfulness · Self-care · Symptoms of emotional distress · Self-compassion

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Introduction

There are many studies showing that caregiving is extremely stressful, resulting in adverse physiologic and psychologic outcomes for both informal and professional caregivers (Pereira et al. 2011; Shanafelt et al. 2012; Wallace et al. 2009). Informal caregivers reported to be more socially isolated and have more depression symptoms than their matched controls, professional caregivers across professions have high rates for burnout, depression, poor physical health and illness, and early mortality (Epel et al. 2004; Irving et al. 2009; Miller et al. 1988; Shanafelt et al. 2002; Spickard et al. 2002). The primary sources of stress among professional care providers include institutional constraints, as well as inter- and intrapersonal distress. The latter is a familiar struggle for care providers. They have to balance their motivation for interpersonal engagement with patients or clients with self-protective emotional boundaries (Ekman and Halpern 2015). Institutional change is slow, however, there is an opportunity to identify proactive, evidence-based interventions to support professional caregivers. The problem of spending a lot of time serving others at the expense of caring for oneself is widely recognized (Remen 2001). Although professional care providers are experts in caring

for others, applying these skills for themselves requires self-compassion and emotional awareness.

Among the different interventions to address intra- and interpersonal distress, Mindfulness and Compassion-Based Interventions (MCBI) have been used to train both professionals' stress management strategies and emotional balance, to increase quality of life, to support engagement with patients, and to improve self-awareness (Cramer et al. 2012; Ekman 2015; Grossman et al. 2004; Krasner et al. 2009; Lauche et al. 2013; Kabat-Zinn 1982). There has been a great amount of evidence for the efficacy of MCBIs in the last decades, showing beneficial results for a wide range of symptoms and problems in health care professionals, such as psychological disorders (Foley et al. 2010; Greeson 2009; Khoury et al. 2013; Palta et al. 2012), stress (Bazarko et al. 2013; Franco 2010; Martín et al. 2005), anxiety and decreased empathy (Barbosa et al. 2013), or burnout (Martín et al. 2014). In other caregiver groups, comparable results were found. Whitebird et al. (2013), for example, found evidence of how Mindfulness-Based Stress Reduction (MBSR; Bishop 2002; Chambers et al. 2009) was effective for improving overall mental health, reducing stress, and decreasing depression among family members caring for people with dementia, compared with a community caregiver education and support intervention. Similarly, Paller et al. (2015) explored the efficacy of a brief mindfulness training for patients of progressive cognitive decline and their family caregivers, showing improvements in well-being and mood. In the same line, in a recent systematic review on the efficacy of MCBI in informal palliative caregivers, Jaffray et al. (2016) reported feasibility, acceptability, and benefits of this type of intervention for reducing depression and caregiver burden, as well as for increasing quality of life.

Cultivating Emotional Balance (CEB; Dos Santos et al. 2016; Kemeny et al. 2011) is a MCBI designed to reduce negative emotional experiences with oneself and others and train skills to constructively experience and express emotions. Included in the 42-h training, there are didactic presentations, group and pair discussions, and guided practice exercises of meditation and emotion regulation (see Table 1 for an outline of the training). The training integrates two parallel approaches to achieve mental stability: the ancient Eastern contemplative practices and philosophy of emotion and the contemporary Western scientific point of view on emotion identification and regulation. The meditation component can be divided into three different families: (a) concentrative, attention practices, which include techniques to train focused attentional regulation strategies; (b) deconstructive practices, like mindfulness focused in the experiential examination of one's physical presence, feelings, and other mental processes; and (c) constructive practices, focused in the promotion of empathy and oriented toward the benefit of others, including compassion (Lutz et al. 2015; Zanesco et al. 2016). The Western scientifically based emotion regulation component of the training includes psychological education on the scientific understanding of emotions, emotion triggers, experience and consequences (Ekman 2007). It also comprises different techniques for recognizing the expression and experience of emotions in oneself and in others, for understanding the relationship between emotion and cognition, and for investigating own emotional patterns (Lama and Ekman 2008; Kemeny et al. 2011).

The primary study on CEB was tested in a sample of 82 schoolteachers (Kemeny et al. 2011). In this work, the training showed effectiveness in the increase of the recognition of emotions in others, positive affect, and mindfulness. It also was a stimulus for the activation of cognitive networks associated with compassion and a protective factor against some of the psychophysiological effects of an experimental threat to oneself. Moreover, a decrease in negative affect, rumination, depression, anxiety, or hostile behavior was also detected. All these effects were maintained at a six-month follow-up. Studies to adapt CEB for care providers have been published by Ekman (2015) also by Milicevic et al. (2016) in mental health workers, as well as among nurses in Brazil (Dos Santos et al. 2016).

Recent research on this population (i.e., McConachie et al. 2014) provided support for the effectiveness of an acceptance and mindfulness-based intervention in reducing distress, similar to encouraging findings obtained for informal caregivers (i.e., Jaffray et al. 2016). The current research is an initial study on CEB in formal caregivers and, specifically, tries to provide evidence in the still scarcely researched area of intellectual disabilities (IDs) care giving. The aim of this research is to establish the initial feasibility for a CEB program in this group, while approaching several issues: Will the level of mindfulness increase when performing a CEB training intervention measured either as de-centering experience or across several facets as observing, describing, acting with awareness, non-judging of inner experience or non-reactivity? Additional questions of this study are whether CEB will also be associated with a change in related variables, such as self-care, symptoms of emotional distress, or self-compassion? We hypothesize that this intervention will increase in self-care and self-compassion meanwhile showing a decrease in symptoms of emotional distress.

Method

Participants

All 285 workers of *Amadip-Esment Foundation* in Majorca (Balearic Islands, Spain) were invited via email

Table 1 Training program structure and components (42-h duration with 26 people)

Training program structure	Duration	42 h
	Training period	10 weeks: 10 4-h sessions and a 2-h last session
	Session structure	Group format with three trainers (a physician, a psychologist, and a meditation trainer with expertise in conducting and assessing training programs)
	Group size	26 people
	Session format	According the guidelines of Cultivating Emotional Balance (CEB®) Program. Didactic presentations, practice related to meditation and to emotional awareness, assignment of home study and home practice (meditation, emotion), discussion of home study and home practice
Training program components	Cultivating attentional balance	Concentration training
		Mindfulness training
	Cultivating emotional balance	Knowledge of functions, sensations, triggers, automatic appraisals and cognitions associated with specific affective states
		Recognizing one's own emotions
		Understanding one's own emotional patterns
		Recognizing emotion in others

to participate in the CEB training. Only 50 workers attended the training presentation and of those, 26 applied for the course and met the inclusion criteria. The selection of participants was carried out according to the following criteria: working directly caring professionals, as well as the order of registration. Finally, 19 workers out of 26 finished the program.

Procedure

The training was considered completed when participants attended at least 80% of the sessions. All participants attended several training sessions, but seven did not reach the required minimum of 80% to be considered completing the training. The seven who were not able to complete the training left for personal or family reasons. Amadip-Esment Foundation's mission is to improve the quality of life of people with intellectual disabilities and their families, in a struggle for equal opportunity. All this information can be consulted in the CONSORT diagram displayed in Fig. 1.

A total of 18 of the 19 professionals who finished the program were women (94.7%). Mean age was 40.47 (SD = 9.06). Most of them were married or lived with their partner (73.7%), 4 were single (21.1%), and only 1 was divorced (5.3%).

The CEB program was distributed in 10 sessions of 4 h each, plus a final session of 2 h. It was carried out in February and March 2015, on the facility of the non-profit Amadip-Esment Foundation. Since 1962, this foundation has advocated for better quality of life of intellectually disabled persons and their families, and for them to have equal opportunities. They have an employability program as well as their own different businesses with intellectually disabled staff (for example printing services). Among other activities, they also run houses and residences for these persons (further information in Spanish at http://www.amadipesment.org).

Data was collected through a secure, anonymous, electronic survey before the first session and a follow-up assessment

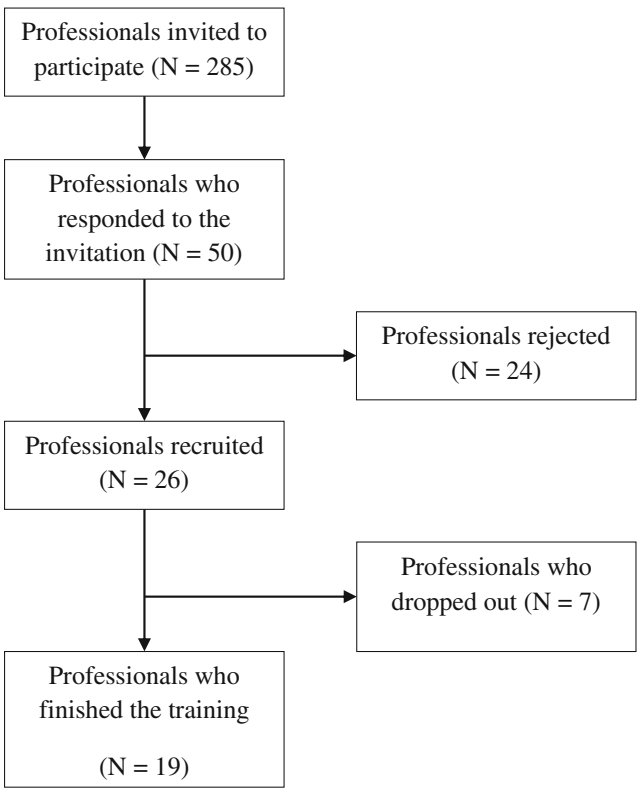

Fig. 1 CONSORT diagram

was carried out six weeks after the end of the training. The course was targeted at professional care providers attending to persons with IDs in Amadip-Esment Foundation. The aims of this training activity were the improvement of self-awareness, self-compassion, self-care, and emotional regulation abilities. Three trainers from different disciplines—a physician, a psychologist, and a meditation trainer—provided their extensive experience in conducting and assessing intervention programs. One of them, the co-author of this paper (EB), is a certified teacher in Cultivating Emotional Balance (CEB®) training. The design of the training program was adjusted to the guidelines of Santa Barbara Institute for Consciousness Studies for CEB®. Sessions no longer than 4 h were scheduled to facilitate participants' attendance. To guarantee quality assurance of the training program, the students' evaluation was based on the participation in class and in compliance with the practices proposed as homework.

Measures

In addition to information on socio-demographic data, several instruments related to the mindful experience, self-care, emotion regulation, and self-compassion were used.

The *Five-Facets Mindfulness Questionnaire* (FFMQ; Baer et al. 2006) is a 39-item instrument rated on a 5-point Likert scale (1 = *never or very rarely true* to 5 = *very often or always true*), oriented to evaluate mindfulness in a comprehensive way, by assessing five key aspects of this construct: Observing (e.g., "When I'm walking, I deliberately notice the sensations of my body moving"), Describing (e.g., "I'm good at finding words to describe my feelings"), Acting with awareness (e.g. "I find myself doing things without paying attention"), Non-judging of inner experience (e.g., "I criticize myself for having irrational or inappropriate emotions"), and Non-reactivity to inner experience (e.g., "I perceive my feelings and emotions without having to react to them"). The Spanish version presented appropriate Cronbach's alphas ranging from .80 to .91 (Cebolla et al. 2012), depending on the subscale.

The *Experiences Questionnaire* (EQ; Fresco et al. 2007) is an 11-item measure to assess decentralization, understood as the capacity to observe one's thoughts and feelings as temporary and objective events of the mind (e.g., "I can separate myself from my thoughts and feelings"). Items are rated on a 5-point Likert scale (ranging from 1 = *never or very rarely true* to 5 = *very often or always true)* with higher scores reflecting greater decentralization. The Spanish version of EQ has shown high internal consistency (Cronbach's α = .89; Soler et al. 2014).

The *Professional Self-Care Scale* (PSCS; Galiana et al. 2015) is a scale of 9 items, with 3 subscales covering 3 areas of self-care: Physical self-care ("I practice activities that help me to relax"), which refers to physical activities that help maintaining a healthy body; Inner self-care ("When I feel emotionally overloaded I try to find time for my own care"), which relates to activities that help keeping a healthy mind; and Social self-care ("I believe that my relations outside work are satisfactory"), relating to social activities that help the individual to maintain social health. Items are rated on a 5-point Likert scale (from 0 = *totally disagree* to 4 = *totally agree*). The PSCS has shown adequate internal consistency for the three subscales (Cronbach's α = .62 for the physical self-care factor, Cronbach's α = .84 for the inner self-care, and Cronbach's α = .53 for the social self-care).

The *Brief Symptom Questionnaire-49 items* (Derogatis and Melisaratos 1983) this is a scale of 49 items developed to assess symptoms of psychological disorders. It includes six factors: depression, phobic anxiety, paranoia, obsession, somatization, and hostility. Each item is rated on a five-point scale (0 to 4) according to manifestations of symptoms in the last 30 days (ranging from "not at all" to "extremely"). The Spanish version of this scale was used in Ruiperez et al. (2001), with adequate internal consistency (Cronbach's α values ranged from .70 to .95 for the different subscales).

The *Self-Compassion Scale* (Neff 2003) is a 26-item scale designed to assess overall self-compassion in a Likert scale (from 1 = *almost never* to 5 = *almost always*). It distinguishes three conceptually facets of compassion: common humanity, mindfulness and self-kindness. The Spanish version of the scale (Garcia-Campayo et al. 2014) showed good reliability (Cronbach's α values ranging from .72 to .79).

Data Analyses

Firstly, descriptive statistics of the variables under study were calculated, including means, standard deviations, and minimum and maximum scores on pre- and post-intervention assessments.

Secondly, and in order to study the effects of the intervention on the multiple variables under study, several within-subjects multivariate analyses of variance (MANOVAs) were carried out. MANOVA tests mean differences on a pool of dependent variables. We used the Pillai's criterion, as it is the most robust when assumptions are not fulfilled (Tabachnick and Fidell 2007). Then, and if the overall *F*-test showed mean differences among intervention assessments, univariate analyses of variance (ANOVAs) were used to determine which means were statistically different from others. Additionally, an analysis of variance (ANOVA) for the study of the effect of the intervention on mindfulness, as assessed by the EQ, was calculated. Bonferroni corrections for follow-up ANOVAs were applied.

The effect size was assessed via partial eta-squares (as the percentage of the variance in "*y*" is explained by the variance in

"x"), following Cohen's criteria (Cohen 1988) plus their 90% confidence interval, as literature recommended (Lakens 2013).

Results

Means, standard deviations, and minimum and maximum scores on pre- and post-intervention assessments can be consulted in Table 2.

The first aim of the current pilot study was to assess the effects of an intervention on emotional balance on participants' mindfulness level. In order to examine preliminary findings, a multivariate analysis of variance (MANOVA) studying the effect of the program on mindfulness, assessed with the FFMQ-20 was carried out. This analysis showed marginally statistically significant differences between pre- and post-intervention assessments: *Pillais' trace* = 0.501, F (5, 14) = 2.815, p = .058, η^2 = .501. The effect size was significant, explaining around the 50% of variance; therefore, follow-up ANOVAs were carried out. Results showed statistically significant differences applying Bonferroni corrections between pre- and post-assessments on the dimensions of Observe, and Describe, as shown in Table 3. Overall, there was an increase on all the dimensions of the FFMQ after the intervention, except for Describe (see Fig. 2). With the same objective, an ANOVA on the effects of the intervention on mindfulness, this time assessed with the EQ, was undertaken. When assessed with the EQ, the intervention showed a statistically significant, large, effect size on mindfulness: Pillais' trace = 0.545, F (1, 18) = 21.601, p < .001, η^2 = .545.

Table 2 Means (M), standard deviations (SD), and minimum (Min) and maximum (Max) scores on pre- and post-intervention assessments

	Pre-intervention				Post-intervention			
	M	SD	Min	Max	M	SD	Min	Max
Observe	3.47	0.82	2.00	4.75	4.14	0.67	2.50	5.00
Describe	2.61	0.81	1.25	4.00	2.10	0.67	1.00	3.50
Act aware	3.38	0.88	1.50	5.00	3.90	0.45	3.00	5.00
Non-judge	3.52	0.74	2.25	4.50	3.93	0.72	2.50	5.00
Non-react	3.07	0.74	1.75	4.50	3.42	0.52	2.50	4.75
De-centering	3.18	0.52	2.18	4.00	3.83	0.42	2.82	4.64
Physical self-care	3.24	0.80	1.33	4.33	3.52	0.73	2.00	5.00
Inner self-care	2.75	1.02	1.67	4.67	3.77	0.83	1.33	5.00
Social self-care	4.07	0.50	3.00	5.00	4.12	0.56	3.00	5.00
Somatization	1.48	0.55	1.00	2.50	1.17	0.26	1.00	1.83
Depression	1.58	0.44	1.00	2.67	1.31	0.30	1.00	2.17
Anxiety	2.07	0.68	1.33	3.67	1.70	0.38	1.00	2.33
Panic	1.42	0.57	1.00	3.33	1.24	0.39	1.00	2.67
Over-identification	3.05	1.07	1.00	5.00	2.21	0.96	1.00	4.00
Self-kindness	3.02	0.88	1.50	5.00	3.78	0.96	1.50	5.00
Mindfulness	3.39	0.90	1.50	5.00	4.05	0.74	2.00	5.00
Isolation	2.63	0.76	1.00	4.50	1.86	0.81	1.00	3.50
Common humanity	3.34	0.70	2.00	4.50	3.57	1.21	1.00	5.00
Self-judgment	2.86	0.86	1.50	5.00	2.34	0.89	1.00	4.00

Our second hypothesis was that other variables traditionally related to mindfulness, such as self-care, symptoms of emotional distress, or self-compassion, will also benefit from the intervention. In order to test this hypothesis, three additional within-subjects MANOVAs were carried out. The first one examined the preliminary data from the pilot with tests of the effects of the intervention on the three dimensions of self-care: physical, inner, and social self-care, the results of which were statistically significant (Pillais' trace = 0.504, F (3, 16) = 5.424, p = .009, η^2 = .504). Follow-up ANOVAs pointed out these differences only in one out of the three dimensions: physical self-care, with a significant effect (see Table 3). The effect for inner self-care with Bonferroni correction is not significant, but still not negligible due to its effect size. To test for the relation among intervention and symptoms of emotional distress, the second MANOVA included, as outcomes or dependent variables, the four dimensions assessed by the BSI: somatization, depression, anxiety, and panic. Results of this MANOVA also showed statistically significant differences on the vector of means for pre- and post-intervention assessments: Pillais' trace = 0.476, F (4, 15) = 3.409, p = .036, η^2 = .476. When follow-up ANOVAs were carried out to determine which means were statistically different from others, differences were found for depression, but not for the rest of the dimensions (see Table 3). The pre-post intervention mean difference on depression was significant, as were those for anxiety and somatization (the three of them with eta squared CI at 90% excluding zero), and favored the scores recruited after the intervention, with lower levels of somatization, depression, anxiety, and panic. Finally, the third MANOVA studied the association between the intervention and dimensions of self-compassion. The result of this analysis was statistically significant: Pillais' trace = 0.723, F (6, 13) = 5.654, p = .004, η^2 = .723, together with all follow-up ANOVAs with Bonferroni corrections with the exception of the dimension of common humanity and self-judgment. Details of these analyses could be consulted in Table 3.

Discussion

All the aforementioned results were found in a pilot study, without control group. This fact should be born in mind, as findings, though providing fresh evidence in an understudied arena should be considered tentative.

Results of current research suggest that the Cultivating Emotional Balance training program, when adapted to professional caregivers, is associated with an improvement in their psychological well-being and a reduction of negative psychological symptoms. These findings on professional caregivers attending intellectual disability provide new evidence to that gathered in different professional contexts. For example, this

Table 3 Follow-up ANOVAs

Dependent variable	df_{effect}	df_{error}	*F*-test	*p* value	η^2 value	90% CI
Observe	1	18	13.835	.002	.435	.132, .611
Describe	1	18	8.843	.008	.329	.057, .532
Act aware	1	18	6.773	.018	.273	.028, .487
Non-judge	1	18	3.787	.067	.174	.000, .399
Non-react	1	18	2.959	.103	.141	.000, .367
Physical self-care	1	18	17.809	.001	.497	.190, .656
Inner self-care	1	18	5.213	.035	.225	.009, .446
Social self-care	1	18	.299	.591	.016	.000, .189
Somatization	1	18	6.969	.017	.279	.031, .492
Depression	1	18	9.442	.007	.344	.066, .544
Anxiety	1	18	5.662	.029	.239	.015, .459
Panic	1	18	1.731	.205	.088	.000, .308
Over-identification	1	18	8.974	.008	.333	.059, .535
Self-kindness	1	18	10.119	.005	.360	.076, .556
Mindfulness	1	18	12.309	.003	.406	.109, .590
Isolation	1	18	14.043	.001	.438	.135, .614
Common humanity	1	18	.975	.337	.051	.000, .258
Self-judgment	1	18	5.835	.027	.245	.017, .463

Bonferroni corrections were applied

df degrees of freedom

kind of training has previously been associated with a decrease in psychological symptoms and burnout in a sample of teachers (Flook et al. 2013; Kemeny et al. 2011).

Results suggested a significant and positive association between the intervention and mindfulness as outcome, either measured as a multidimensional construct or as a general aptitude. In other words, *the level of mindfulness increased after the CEB intervention.* Although the MANOVA was marginally significant, the intervention explained around 50% of the variance. When studied in depth, the statistically significant effects were found in the dimensions of observe and describe. When mindfulness was measured with the EQ, the result was statistically significant and pretty similar to those reported with the FMMQ: again, around 50% of the variance of mindfulness was explained by the intervention. That result supports the literature with a large effect found in previous MCBI studies (i.e., Shapiro et al. 2007), compassion interventions (i.e., Neff and Germer 2013), or specifically with the CEB (Kemeny et al. 2011). Neff and Germer (2013) found that when implementing a Mindful Self-Compassion Program, there was an increase of mindfulness after the intervention, with a medium effect size for the pilot group (η^2 = .106). Within the context of a Mindfulness-Based Stress Reduction intervention, Shapiro et al.'s (2007) results pointed to the same pattern, with significant pre- and post-course increases in mindfulness in the pilot group, relative to control group participants. Also, Kemeny et al.'s study (Kemeny et al. 2011) found significant gains in mindfulness, which were maintained through the follow-up.

Improvement in self-care was also detected. Specifically, physical self-care was the most affected dimension, with a large effect size (again, with almost 50% of the variance explained). Inner self-care was positively associated to the intervention, with a much lower impact, but still to be considered effect size. As far as revised literature showed, results using CEB or any other mindfulness-related intervention on self-care are scarce. Taking into account that self-care has been proved a notable variable when studying professional caregivers' quality of life (Galiana et al. 2015; Sansó et al. 2015), it is a non-trivial task to raise professionals' awareness on the need to use wellness strategies in caring for themselves.

The symptoms of emotional distress decreased after the intervention. The result for psychological symptoms was statistically significant and explained almost 50% of the variance. Specifically, statistically significant effects were found in lower rates of depression. These results are in line with the ones reported by Kemeny et al. (2011), in which a decrease of both depression and anxiety was found. With a different kind of mindfulness-based intervention, Neff and Germer (2013) also found a decrease in depression, anxiety, and stress, with effects that ranged from medium (i.e., η^2 = .114 for anxiety) to large (i.e., η^2 = .222 for depression). These beneficial effects of mindfulness and related interventions on symptoms of emotional distress are widely known. Yet in 1998, Shapiro et al. (1998) found evidence of a decrease in depression, state anxiety, trait anxiety, and psychological distress. Accordingly, some literature suggested that this type of interventions, and specifically, the CEB, could be useful to reduce the well-known psychological distress that

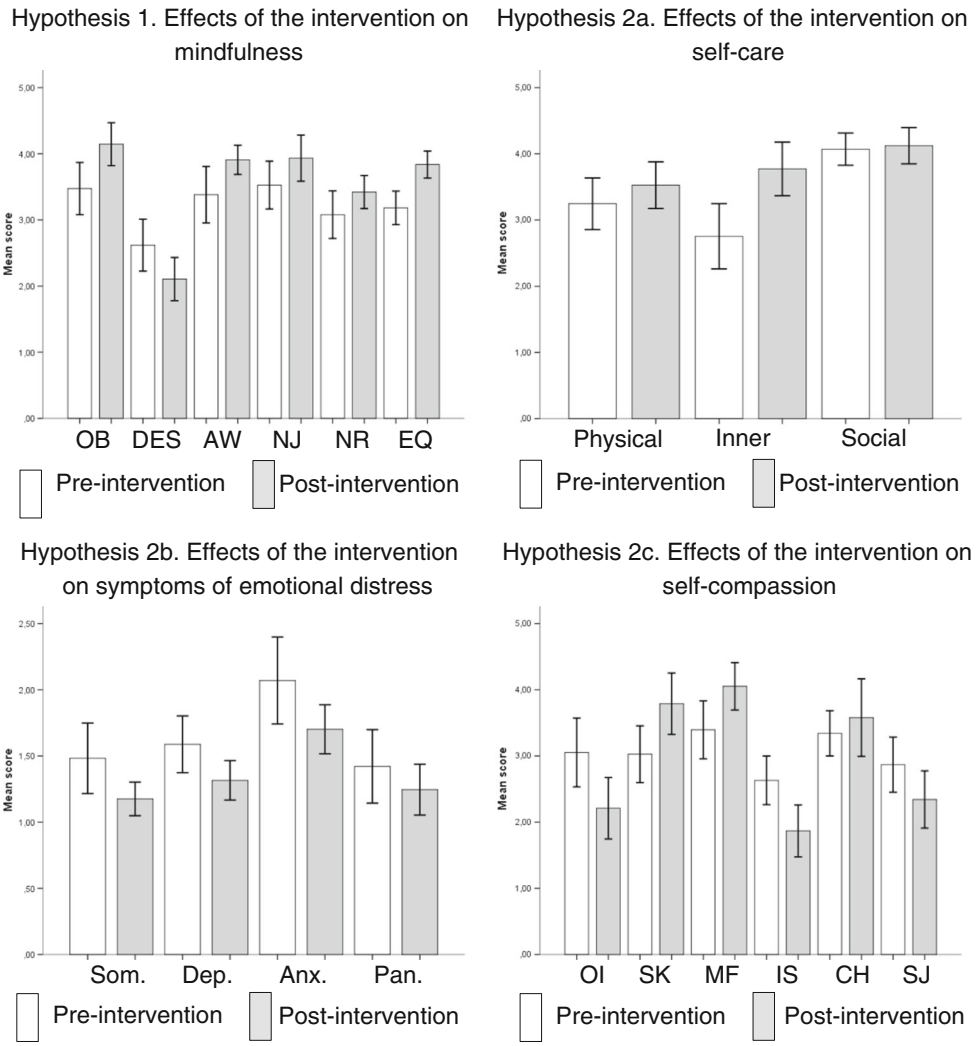

Fig. 2 Pre- and post-intervention results (95% interval of confidence). *OB* observe, *DES* describe, *AW* awareness, *NJ* nonjudge, *NR* non-react, *EQ* de-centering, *Som*. somatization, *Dep*. depression, *Anx*. anxiety, *Pan* panic, *OI* over-identification, *SK* self-kindness, *MF* mindfulness, *IS* isolation, *CH* common humanity, *SJ* self-judgment

professional caregivers suffer (Irving et al. 2009; Miller et al. 1988; Shanafelt et al. 2002; Spickard et al. 2002).

Finally, it seems that self-compassion increased after the intervention, as expected by hypothesis too, showing the largest effect size (almost three quarters of explained variance). Among the six dimensions of self-compassion, only two were not statistically significant, common humanity and self-judgment. The rest of them, over-identification, self-kindness, mindfulness, and isolation, showed large effect sizes, specifically in the case of isolation and mindfulness. This is in line with previous findings from other interventions. Bazzano et al. (2015), for example, found a significant increase of self-compassion after a MBSR intervention in parents or primary caregivers of an individual (or individuals) with a developmental disability. Neff and Germer (2013), in turn, found, when implementing a Mindful Self-Compassion Program, an increase of mindfulness after the intervention, with a significant effect size (η^2 = .297). As Kuyken et al. (2010) suggested once for mindfulness-based interventions, the CEB may also serve as a form of compassion training itself. In this line, CEB could benefit from the advantages of compassion interventions, such as the moderation of the reactions to distressing events, failures, rejection, or embarrassment (Leary et al. 2007).

Findings suggest that CEB may not only lower anxiety, depression, and other psychological symptoms, by enhancing the regulation of emotional states, but also help to improve mindfulness, self-care, and self-compassion, all of these three variables related to a better mental health and quality of life of the professionals. Especially important is the increase found in self-compassion, which has been posited as a key part when dealing with disabilities (Bazzano et al. 2015).

This evaluation program, as pilot study, has two important limitations. On one hand, the sample size that has been limited to the intervention group. On the other, the absence of a control group to control for spurious variables effects. Although only association relations could be established from present research, this new evidence in professionals attending to the needs of people with intellectual disability are encouraging, presenting value for further studies to be carried out.

Among the strengths of the research, it is worth noting the intervention intensity. Factors such as the small size of the intervention group, the three trainers that were simultaneously guiding the intervention, the outstanding practical work, or the extension in time (along 10 weeks) increased participants' involvement in the CEB intervention. In fact, the training had an excellent assessment from the participants.

Future lines of research may include, together with the ones that have already been pointed out, the inclusion of CEB training in formal education programs in the work context. As caregiving is highly stressful (Pereira et al. 2011; Shanafelt et al. 2012; Wallace et al. 2009), CEB training program, which has been identified in this pilot study as a proactive intervention, might be an appropriate intervention to protect professionals from suffering burnout and compassion fatigue.

Compliance with Ethical Standards

Ethical Standards This study was approved by the appropriate ethics committee and has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. All persons gave their informed consent prior to their inclusion in the study.

References

Bazzano, A., Wolfe, C., Zylowska, L., Wang, S., Schuster, E., Barrett, C., & Lehrer, D. (2015). Mindfulness Based Stress Reduction (MBSR) for parents and caregivers of individuals with developmental disabilities: a community-based approach. *Journal of Child and Family Studies, 24*, 298–308. doi:10.1007/s10826-013-9836-9.

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. doi:10.1177/1073191105283504.

Barbosa, P., Raymond, G., Zlotnick, C., Wilk, J., Toomey, R., & Mitchell, J. (2013). Mindfulness-based stress reduction training is associated with greater empathy and reduced anxiety for graduate healthcare students. *Education for health, 26*(1), 9–14. doi:10.4103/1357-6283.112794.

Bazarko, D., Cate, R. A., Azocar, F., & Kreitzer, M. J. (2013). The impact of an innovative mindfulness-based stress reduction program on health and well- being of nurses employed in a corporate setting. *Journal of Workplace Behavioral Health, 28*, 107–113. doi:10.1080/15555240.2013.779518.

Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine, 64*(1), 71–83. doi:10.1097/00006842-200201000-00010.

Cebolla, A., García, A., Soler, J., Guillén, V., Baños, R. M., & Botella, C. (2012). Psychometric properties of the Spanish validation of the Five Facets of Mindfulness Questionnaire (FFMQ). *The European Journal of Psychiatry, 26*(2), 118–126. doi:10.4321/S0213-61632012000200005.

Chambers, R., Gullone, E., & Allen, N. B. (2009). Mindful emotion regulation: an integrative review. *Clinical Psychology Review, 29*(6), 560–572. doi:10.1016/j.cpr.2009.06.005.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale: Lawrence Earlbaum Associates.

Cramer, H., Lauche, R., Paul, A., & Dobos, G. (2012). Mindfulness-based stress reduction for breast cancer. A systematic review and meta-analysis. *Current Oncology, 19*(5), 343–352. doi:10.3747/co.19.1016.

Derogatis, L. R., & Melisaratos, N. (1983). The Brief Symptom Inventory: an introductory report. *Psychological Medicine, 13*(3), 595–605.

Dos Santos, T. M., Kozasa, E. H., Carmagnani, I. S., Tanaka, L. H., Lacerda, S. S., & Nogueira-Martins, L. A. (2016). Positive effects of a stress reduction program based on mindfulness meditation in Brazilian nursing professionals: qualitative and quantitative evaluation. *EXPLORE: The Journal of Science and Healing, 12*(2), 90–99. doi:10.1016/j.explore.2015.12.005.

Ekman, E., & Halpern, J. (2015). Professional distress and meaning in health care: why professional empathy can help. *Social Work in Health Care, 54*, 633–650. doi:10.1080/00981389.2015.1046575.

Ekman, E. (2015). Development, delivery, and evaluation of a pilot stress reduction, emotion regulation, and mindfulness training for juvenile justice officers. *OJJDP Journal of Juvenile Justice, 4*, 71–91.

Ekman, P. (2007). *Emotions revealed: recognizing faces and feelings to improve communication and emotional life*. New York: Macmillan.

Epel, E. S., Blackburn, E. H., Lin, J., Dhabhar, F. S., Adler, N. E., Morrow, J. D., & Cawthon, R. M. (2004). Accelerated telomere shortening in response to life stress. *Proceedings of the National Academy of Science, 101*(49), 17312–17315. doi:10.1073/pnas.0407162101.

Flook, L., Goldberg, S. B., Pinger, L., Bonus, K., & Davidson, R. J. (2013). Mindfulness for teachers: a pilot study to assess effects on stress, burnout and teaching efficacy. *Mind Brian Education, 7*(3). doi:10.1111/mbe.12026.

Foley, E., Huxter, M., Baillie, A., & Price, M. (2010). Mindfulness based cognitive therapy for individuals whose lives have nbeen affected by cancer: a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 78*, 72–79. doi:10.1037/a0017566.

Franco, C. (2010). Reduction of the stress levels and anxiety in primary care medical doctors through an application of a mindfulness training program [Reducción de los niveles de estrés y ansiedad en médicos de Atención Primaria mediante la aplicación de un programa de entrenamiento en conciencia plena (mindfulness)]. *Atención Primaria, 42*(11), 564–570. doi:10.1016/j.aprim.2009.10.020.

Fresco, D. M., Moore, M. T., van Dulmen, M. H., Segal, Z. V., Ma, S. H., Teasdale, J. D., & Williams, J. M. (2007). Initial psychometric properties of the experiences questionnaire: validation of a self-report measure of decentering. *Behavior Therapy, 38*(3), 234–246. doi:10.1016/j.beth.2006.08.003.

Galiana, L., Oliver, A., Sansó, N., & Benito, E. (2015). Validation of a new instrument for self-care in Spanish palliative care professionals nationwide. *Spanish Journal of Psychology, 18*, E67. doi:10.1017/SJP.2015.71.

Garcia-Campayo, J., Navarro-Gil, M., Andrés, E., Montero-Marin, J., López-Artal, L., & Demarzo, M. M. (2014). Validation of the Spanish versions of the long (26 items) and short (12 items) forms of the Self-Compassion Scale (SCS). *Health and Quality of Life Outcomes, 12*, 4. doi:10.1186/1477-7525-12-4.

Greeson, J. M. (2009). Mindfulness research update 2008. *Complementary Health Practice Review, 14*, 10–18. doi:10.1177/1533210108329862.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits. A meta-analysis. *Journal of Psychosomatic Research, 57*(1), 35–43. doi:10.1016/S0022-3999(03)00573-7.

Irving, J. A., Dobkin, P. L., & Park, J. (2009). Cultivating mindfulness in health care professionals: a review of empirical studies of mindfulness-based stress reduction (MBSR). *Complementary Therapies in Clinical Practice, 15*(2), 61–66. doi:10.1016/j.ctcp.2009.01.002.

Jaffray, L., Bridgman, H., Stephens, M., & Skinner, T. (2016). Evaluating the effects of mindfulness-based interventions for informal palliative caregivers: a systematic literature review. *Palliative Medicine, 30*(2), 117–131. doi:10.1177/0269216315600331.

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.

Kemeny, M. E., Foltz, C., Cavanagh, J. F., Cullen, M., Giese-Davis, J., Jennings, P., Rosenberg, E. L., Gillath, O., Shaver, P. R., Wallace, B. A., & Ekman, P. (2011). Contemplative/emotion training reduces negative emotional behavior and promotes prosocial responses. *Emotion, 12*(2), 338–350. doi:10.1037/a0026118.

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Chapleau, M. A., Paquin, K., & Hofmann, S. G. (2013). Mindfulness-based therapy: a comprehensive meta-analysis. *Clinical Psychology Review, 33*(6), 763–771. doi:10.1016/j.cpr.2013.05.005.

Krasner, M. S., Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA, 302*(12), 1284–1293. doi:10.1001/jama.2009.1384.

Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R. S., Byford, S., Evans, A., Radford, S., Teasdale, J. D., & Dalgleish, T. (2010). How does mindfulness-based cognitive therapy work? *Behavior Research and Therapy, 48*, 1105–1112. doi:10.1016/j.brat.2010.08.003.

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in Psychology, 4*. doi:10.3389/fpsyg.2013.00863.

Lama, D., & Ekman, P. (2008). *Emotional awareness: overcoming the obstacles to psychological balance and compassion*. New York: Macmillan.

Lauche, R., Cramer, H., Dobos, G., Langhorst, J., & Schmidt, S. (2013). A systematic review and meta-analysis of mindfulness-based stress reduction for the fibromyalgia syndrome. *Journal of Psychosomatic Research, 75*(6), 500–510. doi:10.1016/j.jpsychores.2013.10.010.

Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: the implications of treating oneself kindly. *Journal of Personality and Social Psychology, 92*, 887–904. doi:10.1037/0022-3514.92.5.887.

Lutz, A., Jha, A. P., Dunne, J. D., & Saron, C. D. (2015). Investigating the phenomenological and neurocognitive matrix of mindfulness-related practices. *American Psychologist, 70*(7), 632–658. doi:10.1037/a0039585.

Martín, A., García de la Banda, G., & Benito, E. (2005). Stress reduction through mindful attention: MBSR technique applied to healthcare professionals [Reducción de estrés mediante atención plena: la técnica MBSR en la formación de profesionales de la salud]. *Análisis y modificación de conducta, 139*(31), 557–571.

Martín, A., Moix, J., Pujol-Ribera, E., Berenguera, A., Rodríguez-Blanco, T., & Epstein, R. M. (2014). Effectiveness of a mindfulness education program in primary health care professionals: a pragmatic controlled trial. *Journal of Continuing Education in the Health Professions, 34*(1), 4–12. doi:10.1002/chp.21211.

McConachie, D. A. J., McKenzie, K., Morris, P. G., & Walley, R. M. (2014). Acceptance and mindfulness-based stress management for support staff caring for individuals with intellectual disabilities. *Research in Developmental Disabilities, 35*(6), 1216–1227. doi:10.1016/j.ridd.2014.03.005.

Milicevic, A., Milton, I., & O'Loughlin, C. (2016). Experiential reflective learning as a foundation for emotional resilience: An evaluation of contemplative emotional training in mental health workers. *International Journal of Educational Research, 80*, 25–36. doi:10.1016/j.ijer.2016.08.001.

Miller, K. I., Stiff, J. B., & Ellis, B. H. (1988). Communication and empathy as precursors to burnout among human service workers. *Communication Monographs, 55*, 250–265. doi:10.1080/03637758809376171.

Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. *Journal of Clinical Psychology, 69*(1), 28–44. doi:10.1002/jclp.21923.

Neff, K. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity, 2*, 223–250. doi:10.1080/15298860390209035.

Paller, K. A., Creery, J. D., Florczak, S. M., Weintraub, S., Mesulam, M. M., Reber, P. J., Kiragu, J., Rooks, J., Safron, A., Morhardt, D., O'Hara, M., Gigler, K. L., Molony, J. M., & Maslar, M. (2015). Benefits of mindfulness training for patients with progressive cognitive decline and their caregivers. *American Journal of Alzheimer's Disease and Other Dementias, 30*(3), 257–267. doi:10.1177/1533317514545377.

Palta, P., Page, G., Piferi, L., Gill, J. M., Hayatm, M. J., Connolly, A. B., & Szanton, S. L. (2012). Evaluation of a mindfulness-based intervention program to decrease blood pressure in low-income African-American older adults. *Journal of Urban Health, 89*(2), 308–316. doi:10.1007/s11524-011-9654-6.

Pereira, S. M., Fonseca, A. M., & Carvalho, A. S. (2011). Burnout in palliative care: a systematic review. *Nursing Ethics, 18*(3), 317–326. doi:10.1177/0969733011398092.

Remen, R. N. (2001). Recapturing the soul of medicine. *Western Journal of Medicine, 174*(1), 4–5.

Ruiperez, M. A., Ibañez, M. I., Lorente, E., Moro, M., & Ortet, G. (2001). Psychometric properties of the Spanish version of the BSI. *European Journal of Psychological Assessment, 17*, 241–250. doi:10.1027//1015-5759.17.3.241.

Sansó, N., Galiana, L., Oliver, A., Sinclair, S., & Benito, E. (2015). Palliative care professionals' inner life: exploring the relationships among awareness, self-care and compassion satisfaction and fatigue, burnout and coping with death. *Journal of Pain and Symptom Management, 50*(2), 200–207. doi:10.1016/j.jpainsymman.2015.02.013.

Shanafelt, T. D., Bradley, K. A., Wipf, J. E., & Back, A. L. (2002). Burnout and self-reported patient care in an internal medicine residency program. *Family Journal, 12*, 396–400. doi:10.7326/0003-4819-136-5-200203050-00008.

Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., West, C. P., Sloan, J., & Oreskovich, M. R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine, 172*(18), 1377–1385. doi:10.1001/archinternmed.2012.3199.

Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine, 21*(6), 581–599.

Shapiro, S. L., Brown, K. W., & Biegel, G. M. (2007). Teaching self-care to caregivers: effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology, 1*(2), 105–115. doi:10.1037/1931-3918. 1.2.105.

Soler, J., Franquesa, A., Feliu-Soler, A., Cebolla, A., García-Campayo, J., Tejedor, R., Demarzo, M., Baños, R., Pascual, J. C., & Portella, M. J. (2014). Assessing decentering: validation, psychometric properties, and clinical usefulness of the experiences questionnaire in a Spanish sample. *Behavior Therapy, 45*(6), 863–871. doi:10.1016/j.beth.2014.05.004.

Spickard, A., Gabbe, S. G., & Christensen, J. F. (2002). Mid-career burnout in generalist and specialist physicians. *Journal of the American Medical Association, 288*, 1447–1450. doi:10.1001/jama.288.12.1447.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Pearson Education.

Wallace, J. E., Lemaire, J. B., & Ghali, W. A. (2009). Physician wellness: a missing quality indicator. *The Lancet, 374*(9702), 1714–1721. doi:10.1016/S0140-6736(09)61424-0.

Whitebird, R. R., Kreitzer, M., Crain, L., Lewis, B. A., Hanson, L. R., & Enstad, C. J. (2013). Mindfulness-based stress reduction for family caregivers: a randomized controlled trial. *The Gerontologist, 53*(4), 676–686. doi:10.1093/geront/gns126.

Zanesco, A. P., King, B. G., MacLean, K. A., Jacobs, T. L., Aichele, S. R., Wallace, B. A., Smallwood, J., Schooler, J. W., & Saron, C. D. (2016). Meditation training influences mind wandering and mindless reading. *Psychology of Consciousness: Theory, Research, and Practice, 3*(1), 12–33. doi:10.1037/cns0000082.