American Journal of Alzheimer's
Disease & Other Dementias®
2015, Vol. 30(2) 130-138

DOI: 10.1177/1533317514550331
aja.sagepub.com

Supporting Direct Care Workers in Dementia Care: Effects of a Psychoeducational Intervention

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Abstract

An experimental study using a pre–posttest control group design was conducted to assess the effects of a person-centered care-based psychoeducational intervention on direct care workers' stress, burnout, and job satisfaction. The intervention aimed to develop person-centered care competences and tools for stress management. Four aged care facilities were randomly assigned to a psychoeducational or an education-only intervention (control). Data were collected from 56 direct care workers (female, mean age 44.72 ± 9.02) through measurements of burnout (Maslach Burnout Inventory), job satisfaction (Minnesota Satisfaction Questionnaire-short form), and stress (Perceived Stress Scale) and focus-group interviews. Results showed significant positive effects in emotional exhaustion ($P = .029$) and positive but no significant effects in stress and job satisfaction. According to qualitative data, the experimental group perceived enhanced group cohesion, emotional management, and self-care awareness. Psychoeducational interventions may contribute to reduce direct care workers' burnout. Further work is needed to determine the extent of its benefits.

Keywords

burnout, dementia, direct care workers, job satisfaction, stress, person-centered care

Introduction

The number of older adults living with dementia worldwide has been increasing and will continue to do so over the coming years.[1] Currently, around one-third to one-half of people with dementia in high-income countries are cared for in aged care facilities (ie, places of collective living that provide health, personal care, and supportive services).[2]

Direct care workers (DCWs) represent the largest component of the workforce in aged care facilities.[3] They provide the most basic activities of daily life and have the most frequent contact with the residents, being more likely to influence the quality of life and quality of care provided to people with dementia.[3] However, dementia-related behaviors (eg, agitation) along with an inadequate education and training in dementia care, a high workload, interpersonal conflicts, or a nonsupportive leadership contribute to high levels of DCWs' stress, burnout and job dissatisfaction and compromise the quality of care and residents' well-being.[4,5]

Until recently, the development and implementation of educational interventions to foster DCWs' dementia care skills have been the main concerns of the researchers. Emerging philosophies, such as person-centered care (PCC), are increasingly used to describe high-quality care and have become the cornerstone of such interventions. Education on PCC aims to help DCWs to provide a care that asserts the human value of people with dementia and those who care for them, the individuality of people with dementia, and the importance of relationships and interactions and their potential for promoting residents' well-being.[6,7] The latter emphasizes the importance of considering the needs of those who care and ways of supporting and enhancing their response to the person with dementia. Although PCC places the resident's experience at the center of quality care, it recognizes that if DCWs are to deliver such care, they need to have their own emotional strains acknowledged.[6,7]

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The literature has focused on the benefits of PCC education for residents. Lowered agitation and aggression,[8-10] increased engagement in daily activities,[11] and improved well-being[10,12] have been described. Considering the relational nature of PCC, one might to expect that DCWs would benefit from PCC education; however, the effects of PCC interventions on workers' stress, burnout, or job satisfaction are not always detectable nor significant.[13,14] This suggests that interventions need to extend beyond DCWs' educational needs to also address emotional and relational skills, which, despite the rhetoric of PCC, are still undervalued.

Adding to an educational component a supportive one, aiming to provide DCWs with tools for stress and emotional management, holds promise as a means of driving forward benefits for DCWs and care provision.[15] Thus, this study aimed to analyze the effects of a PCC-based psychoeducational (PE) intervention on DCWs' work-related stress, burnout, and job satisfaction. It is hypothesized that, compared to education only, an intervention offering both educational and emotional support is more effective in reducing DCWs' stress, burnout, and job dissatisfaction.

Design and Methods

Design and Settings

An experimental study, using a pre–posttest control group design, was conducted in 4 aged care residential facilities of the central region of Portugal, between November 2011 and March 2013.

After having been grouped into clusters of similar staff–resident ratio and residents with dementia–total residents' ratio, 2 pairs of facilities of the same cluster were selected. The managers of each facility were then contacted to present the aims of the study and to address their availability to participate. All accepted to participate and guaranteed no simultaneous participation in similar studies or significant organizational changes during the intervention. After recruitment, the facilities within each pair were randomly assigned to the experimental group–PE intervention—or control group—education-only intervention—using a random number generator. This decision was supported by the fact that education has become the most widely used approach with DCWs. Randomization occurred at the facility level because of possible contamination.

Study facilities were private, nonprofit institutions of collective accommodation with more than 30 licensed beds, with a staff–resident ratio between 1:2 and 1:3, and a residents with dementia–total of residents' ratio between 1:3 and 1:4. The study received approval from the Health Sciences Research Unit: Nursing (UICISA: E), Portugal (Ref. 5-11/2010).

Participants

The service managers of each facility were asked to identify all DCWs who provided morning personal care (ie, period of time between 07 AM and 12 AM when DCWs are involved in activities related to bathing, grooming, dressing, and toileting) to people with dementia in a regular basis and were employed for at least 2 months. Temporary DCWs and trainees were excluded as it was not possible to ensure their participation until the end of the study.

A meeting with eligible DCWs was then scheduled to elucidate the study and invite them to participate. They were informed about the voluntary nature of their participation, and their anonymity and confidentiality were assured. Written informed consent was obtained prior to any data collection.

All eligible DCWs (n = 58) agreed to participate and entered the study at baseline—27 in the experimental group and 31 in the control group. Of these, 56 completed the posttest questionnaires (dropouts occurred in the control group and were due to sick leave) and 50 participated in the posttest interviews. Eight workers were unable to attend the interviews due to sick leave (n = 2) or incompatible schedules (n = 6). Dropouts occurred mainly in the control group (n = 6).

Interventions

Psychoeducational intervention. The experimental group received a PCC-based PE intervention consisting of 8 weekly sessions of approximately 90 minutes.

The intervention design was informed by relevant literature on PE approaches, PCC, and dementia, findings from a pilot study conducted by authors' team,[15,16] and interviews with DCWs and managers about training and emotional needs.[17] The latter suggested the need for information and skills to manage dementia-related behaviors and interact with residents, knowledge about residents' biographies, practical guidance, and support to improve teamwork, workload, and time management.[17]

Each session comprised 2 components—educative and supportive (Table 1)—coordinated by a gerontologist and a physical therapist with previous experience in facilitating PE interventions. These facilitators adopted an active and empathetic posture, reinforced DCWs' competencies and resources, and mediated the interaction between group participants.

The educative component lasted approximately 60 minutes and aimed to provide DCWs with principles of PCC (eg, interpret behavior from the person's viewpoint and recognition of residents' life histories), basic information about dementia, verbal and nonverbal communication strategies to interact with residents (eg, maintain eye contact and use short, simple sentences), and PCC-based interaction strategies including motor stimulation (eg, encourage the person to perform one task or a part of it) and multisensory stimulation (eg, provide a massage while washing resident's hair). In the 3 days following each session, the same professionals assisted each DCW individually during morning care, clarifying doubts and making suggestions to implement more PCC. Supportive skills were not addressed during individual assistance.

Morning care is considered the period where more interaction between DCWs and residents occurs and dementia-related behaviors are more frequent.[18]

At the supportive component, participants were taught coping strategies to manage work-related stress and prevent burnout (eg, time-management and teamwork). At the end of each supportive component, relaxation techniques (eg, abdominal breathing and guided imagery), stretching, and strengthening exercises were practiced.

Table 1. Content of the Interventions.

<table>
<tr><th>Session</th><th>Component</th><th>Experimental group</th><th>Control group</th></tr>
<tr><td>1</td><td>Educative</td><td colspan="2"><i>Information about PCC and dementia:</i> Information about the concept and principles of PCC. Basic information on dementia, its causes, symptoms, and evolution.</td></tr>
<tr><td></td><td>Supportive</td><td><i>Emotional impact of caregiving:</i> The positive and negative impacts of the caregiving experience on personal and professional life; abdominal breathing.</td><td></td></tr>
<tr><td>2</td><td>Educative</td><td colspan="2"><i>Communication in dementia:</i> Communicative behavioral strategies to interact with residents with dementia. (eg, give simple choices, use validation, allows time to respond, and use individual's name and eye contact).</td></tr>
<tr><td></td><td>Supportive</td><td><i>Conflict management:</i> Improving assertiveness through the DESC technique (Describe, Explain, Specify, Conclude;[19]. Stretching and strengthening exercises.</td><td></td></tr>
<tr><td>3</td><td>Educative</td><td colspan="2"><i>Challenging behaviors:</i> Information about challenging behaviors and strategies to deal with them.</td></tr>
<tr><td></td><td>Supportive</td><td><i>Teamwork:</i> The importance, benefits, and constraints to teamwork; strategies to enhance cooperation between DCWs (eg, active listen and positive feedback). Cognitive relaxation technique.</td><td></td></tr>
<tr><td>4</td><td>Educative</td><td colspan="2"><i>The environment and dementia</i>: Strategies to enhance the physical and social environment for the person with dementia (eg, decrease background noise and postsigns as reminders); information about the risk factors and strategies to prevent falls.</td></tr>
<tr><td></td><td>Supportive</td><td><i>Deal with emotions:</i> Improving emotion-management strategies through the activity "six colors to think"[20] stretching and strengthening exercises.</td><td></td></tr>
<tr><td>5</td><td>Educative</td><td colspan="2"><i>Motor stimulation:</i> Information about motor stimulation, strategies to enhance residents' involvement in daily care (eg, break the small steps of an activity), and techniques for the moving and handling of residents.</td></tr>
<tr><td></td><td>Supportive</td><td><i>Time management:</i> The impact of poor time management on personal and professional life and tools for better time management (eg, set priorities, use a planning tool). Mental body scan.</td><td></td></tr>
<tr><td>6</td><td>Educative</td><td colspan="2"><i>Multisensory stimulation—olfaction:</i> Information about multisensory stimulation, dementia-related olfactory changes, and strategies to stimulate the olfaction during the daily care (eg, use shower gel of different fragrances, place aroma diffusers in the bedroom)</td></tr>
<tr><td></td><td>Supportive</td><td><i>Problem solving:</i> Using the problem-solving technique: (a) identify the problem, (b) explain the problem, (c) create solutions, (d) choose one solution, (e) plan the implementation of the solution, and (f) evaluate the efficacy. Stretching and strengthening exercises</td><td></td></tr>
<tr><td>7</td><td>Educative</td><td colspan="2"><i>Multisensory stimulation—vision and tactile stimulation:</i> The importance of vision and touch for people with dementia, dementia-related visual and tactile changes, strategies to stimulate the vision (eg, reality orientation) and touch (eg, hand massage during bath)</td></tr>
<tr><td></td><td>Supportive</td><td><i>Relaxation</i>: Yoga</td><td></td></tr>
<tr><td>8</td><td>Educative</td><td colspan="2"><i>Multisensory stimulation—audition and taste:</i> The importance of audition and taste for people with dementia, dementia-related audition and taste changes, strategies to stimulate the audition (eg, listen to residents' favorite song) and taste (eg, brush the person's teeth with toothpastes of different flavors).
Celebration and finalization</td></tr>
</table>

All participants were given handouts with relevant information. Active-learning methods were used during sessions, including group discussions, role-playings, or brainstorming.

Education-only intervention. The control group received an education-only intervention entailing 8 weekly sessions. It was the absence of the supportive component (including the final stretching and strengthening exercises) that distinguished both interventions. The coordination, length, order, and content of the sessions were the same as the educational component of the PE intervention. Participants were individually assisted during morning care by the same professionals, which helped DCWs to deliver more PCC and clarified doubts that emerged from sessions.

Data Collection

Quantitative and qualitative methods were applied to enhance the understanding of the results.[21] Quantitative data included standardized outcome measures of perceived stress, burnout, and job satisfaction that were applied 2 weeks before and 2 weeks after the intervention; qualitative data were collected through focus group interviews with participants 2 weeks after the intervention.

Quantitative data

Sociodemographic data. A sociodemographic questionnaire, including variables such as gender, age, education, marital status, and length of time at the facility, was designed to collect DCWs' background data at baseline.

Perceived stress. The Portuguese version of the Perceived Stress Scale (PSS)[22] was used to assess DCWs' perception of life stress in the past month. The PSS consists of 13 items (item 12 was excluded from the original version[23] given its weak psychometric properties) rated on a 5-point Likert-type scale ranging from "never" (0) to "very often" (4). Higher scores correspond to higher degrees of perceived stress. The PSS has been used in previous studies in this field, reporting high levels of reliability.[24] The used version demonstrated high internal consistency ($\alpha = .76$).

Burnout. The Portuguese version of the Maslach Burnout Inventory (MBI)—Human Services Survey was used to assess DCWs' experience of burnout.[25] The MBI has been the most widely used measure of DCWs' burnout.[26-28] It consists of 22 items divided into 3 subscales: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). The EE subscale (8 items) assesses feelings of being emotionally exhausted by one's work. The DP subscale (5 items) measures the negative attitudes toward recipients' care. The PA subscale (8 items) assesses feelings of competence and successful achievement in work. The MBI is a 7-point Likert-type scale, ranging from "never" (0) to "every day" (6). For EE and DP subscales, higher mean scores correspond to higher degrees of burnout. Lower mean scores on PA subscale mean higher degrees of burnout. The Portuguese version demonstrated high internal consistency ($\alpha = .75$). Reliability coefficients of .80, .71, and .70 were found for EE, DP, and PA, respectively.[25]

Job satisfaction. The Portuguese version of the short-form Minnesota Satisfaction Questionnaire (MSQ)[29] was used to assess DCWs' job satisfaction. It includes 20 items rated on a 5-point Likert-type scale ranging from "extremely dissatisfied" (1) to "extremely satisfied" (5). Item responses are summed or averaged to create a total score—the lower the score, the lower the level of job satisfaction.

Besides a total score, the short-form MSQ can also be scored for intrinsic and extrinsic satisfaction. The intrinsic subscale includes 6 items with scores ranging between 1 and 30 and refers to how people feel about the nature of the job tasks themselves. The extrinsic satisfaction subscale contains 8 items ranging from 8 to 40 and refers to how people feel about aspects of the work situation that are external to the job tasks or work itself.[27] The MSQ has been widely used, with previous research reporting high levels of reliability.[30,31] The used version had excellent internal consistency ($\alpha = .93$).

Qualitative data. Qualitative data were collected through 8 focus group interviews (2 in each facility) with 5 to 12 participants. They were conducted by the first author in a private and quiet room of each facility. A semistructured interview guide with open-ended questions was used. The interview aimed to collect DCWs' perceptions about the intervention and its impact on their working life. The moderator's role was to encourage participants' reflection and discussion, using probes to elaborate their responses (eg, "can you explain further?") while keeping a nonjudgmental attitude. Each interview lasted approximately 45 minutes. Focus groups were recorded with the interviewees' consent and transcribed *verbatim*.

Data Analysis

Sociodemographic characteristics of the groups at baseline were defined using descriptive statistics and compared with independent *t* tests or chi-square tests as appropriate.

Independent sample *t* tests were performed to examine differences between the groups at baseline. After running normality and homogeneity of variance tests, the repeated measures analysis of variance was used to assess group × time intervention effects for each outcome measure. Partial η^2 was interpreted as small (≤ 0.05), medium (0.05-0.25), large (0.25-0.50), and very large (≥ 0.50).[32] The established level of significance was $P < .05$. Statistical analyses were performed using SPSS v20.0 (IBM Corp., Armonk, New York).

Data from the focus groups were submitted to thematic analysis by 2 independent judges (first and last authors) as follows: the text was read several times to construct a sense of the text as a whole; preliminary codes were created, reflecting the interview questions; codes were organized into categories and then integrated into major themes; the categorization was discussed between the 2 judges until they reached a consensus; the other authors were individually asked to review the final categorization and make suggestions of improvement; and both agree with the categorization and no suggestions were made. A qualitative data analysis software—webQDA (Portugal)—was used to manage data. All names were coded to protect participants' anonymity.

Results

Quantitative Data

Demographic information. There were no significant differences between the groups in terms of sociodemographic data. Participants were all female with a mean age of 44.72 ± 9.02 years. The majority were married (67.2%), 46.4% had primary and middle school education, and 41.4% had high school education. The average length of service was 9.61 ± 3.72 years (Table 2).

Table 2. Baseline Characteristics of DCWs.[a]

Outcome	Total (n = 58) N (%)	Experimental group (n = 27) N (%)	Control group (n = 31) N (%)	χ^2	*df*	*P* value
Gender						
Female	58 (100.0)	27 (100.0)	31 (100.0)	No statistical analysis possible		
Age in years						
M (SD)	44.72 (9.02)	43.37 (10.00)	45.90 (8.04)	1.069[b]	56	.290
Marital status						
Married	39 (67.2)	17 (63.0)	22 (71.0)			.887
Widowed	3 (5.2)	1 (3.7)	2 (6.5)			
Single	4 (6.9)	2 (7.4)	2 (6.5)	1.148	4	
Divorced/separated	9 (15.5)	5 (15.5)	4 (12.9)			
Other	3 (5.2)	2 (7.4)	1 (3.2)			
Education						
Primary school[c]	15 (25.9)	4 (14.8)	11 (35.5)			.144
Middle school[d]	12 (20.7)	6 (22.2)	6 (19.4)			
High school[e]	24 (41.4)	11 (40.7)	13 (41.9)	6.857	4	
College degree	1 (1.7)	1 (3.7)	0 (0.0)			
Other	6 (10.3)	5 (18.5)	1 (3.2)			
Length of service, years						
M (SD)	9.61 (3.72)	9.84 (4.86)	9.42 (2.51)	−0.418[b]	56	.678

Abbreviations: M, mean; SD, standard deviation; *df*, degrees of freedom; DCWs, direct care workers.

[a] n = 58.

[b] *t* test student.

[c] 1 to 4 years of education.

[d] 5 to 9 years of education.

[e] 10 to 12 years of education.

Table 3. Results of the Repeated Measures ANOVA.

	Experimental group (n = 27)		Control group (n = 31)			
	Pretest	Posttest	Pretest	Posttest		
Outcome	Mean (SD)		Mean (SD)		Group × time effect	ES
PSS	19.74 (6.16)	18.93 (6.60)	20.55 (6.31)	20.10 (4.79)	$F = 0049$, $df(1)$ $P = .826$	0.001
MBI						
Emotional exhaustion	16.08 (11.15)	14.88 (8.62)	12.67 (10.59)	15.42 (9.72)	$F = 0.251$, $df(1)$ $P = .029$	0.095
Depersonalization	5.93 (5.67)	6.70 (6.05)	6.07 (5.71)	5.52 (4.01)	$F = 0.732$, $df(1)$ $P = .396$	0.013
Personal accomplishment	38.89 (6.84)	36.59 (9.74)	40.69 (6.20)	37.31 (8.02)	$F = 5.058$, $df(1)$ $P = .618$	0.005
MSQ						
MSQ intrinsic	24.18 (2.20)	23.89 (2.14)	22.55 (4.19)	21.55 (3.53)	$F = 0.757$, $df(1)$ $P = .388$	0.014
MSQ extrinsic	26.85 (4.57)	26.40 (3.54)	24.62 (4.84)	25.59 (4.15)	$F = 2.232$, $df(1)$ $P = .133$	0.041
Total	72.74 (6.04)	73.7 (8.18)	68.14 (9.06)	68.55 (10.13)	$F = 0.101$, $df(1)$ $P = .618$	0.005

Abbreviations: ES, effect sizes; SD, standard deviation; *df*, degrees of freedom; MSQ, Minnesota Satisfaction Questionnaire; ANOVA, analysis of variance; PSS, Perceived Stress Scale.

Direct care workers' perceived stress, burnout, and job satisfaction. Data concerning DCWs' outcomes are presented in Table 3. At baseline, there were no significant differences between the groups in perceived stress, burnout, or job satisfaction.

Within both groups, there was a positive change from pre- to posttest on the DCWs' perceived stress. However, the differences were not significant ($P = .826$) and the effect size was irrelevant (η^2 partial $= 0.001$).

Analyses revealed a significant group × time interaction effect on the EE scores. Direct care workers in the experimental group had reduced EE scores, whereas the scores in the control group increased immediately after the intervention ($P = 0.029$). Effect sizes were moderate (η^2 partial $= 0.095$). No differences were found for the remaining MBI subscales.

Both groups showed moderate levels of job satisfaction. The experimental group showed a positive change from pre- to posttest on this outcome, whereas in the control group change was minimal. Yet, no significant differences ($P = .618$) or effect sizes (η^2 partial $= 0.005$) were obtained. Also, no differences were detected for both intrinsic ($P = .388$) and extrinsic ($P = .133$) subscales.

Qualitative Study

Seven major themes were identified concerning the DCWs' perceptions about the intervention and its impact on their working life. Three themes emerged only within the experimental group: group cohesion, better emotional management, and self-care awareness.

According to participants, the PE intervention encouraged the sharing of personal experiences and a sense of closeness between peers, giving an opportunity for participants to get to know each other. Direct care workers reported becoming more aware of the other members' emotions, which increased mutual understanding:

> "The way we interact has improved. We had the opportunity to learn things of each other that we otherwise would not know." (DCW2, experimental group)
>
> "It made us realize that we must try to understand our colleagues' perspective." (DCW3, experimental group)

The PE intervention helped participants to deal with emotions more effectively, with DCWs feeling more thoughtful and experiencing increased self-control toward residents' behaviors:

> I'm calmer. I no longer work with the same anxiety. Now we reflect, we breathe before doing things." (DCW4, experimental group)

Direct care workers also reported becoming more aware of the importance of self-care and realized that their well-being is closely related to residents' well-being:

> "I've been thinking a little more about me. We tend to forget ourselves, we are always more concerned with our work or our family. Now I'm aware that if we don't feel healthy we will not be able to support others." (DCW3, experimental group)

Four themes were shared between the groups: self-worth feelings, increased knowledge about dementia, increased knowledge about the person, and PCC awareness.

Participants reported feeling valued, as their skills and efforts were appreciated and recognized as adequate by facilitators. The recognition of their worth allowed them to improve care practice and enhance job enthusiasm:

> "We never had such an appreciation! The facilitators have told us 'good work, congratulations'. I think this motivate us to carry on and improve." (DCW2, experimental group)
>
> "We have been valued. During the individual assistance the facilitators told us 'you are doing well' which is essential for us." (DCW5, control group)

Receiving information helped DCWs from both groups to understand the syndrome better, particularly how to interpret and manage residents' behaviors. The acquisition of new information enhanced their attitude and commitment to work:

> "We had no knowledge about dementia or why those behaviours occurred and your intervention helped us to understand and manage those behaviours." (DCW1, experimental group)
>
> "Now we know that their behaviour might be explained by several reasons. (...) and we fell more committed to work." (DCW6, control group)

Both interventions allowed participants to better understand the residents. Being aware of the person's background and preferences helped DCWs to interact with the resident and improved the quality of care provision:

> "We are more familiar with the residents' past history which helps us to understand certain behaviours." (DCW2, experimental group)
>
> "Now we know how to start a conversation with them. When we consider their past history they interact more with us." (DCW7, control group)

Also, interventions improved DCWs' competences on PCC. Participants reported being more aware of the importance of fostering the residents' independence, communicating, and promoting their active participation during care routines:

> "Now during care practice I stop to ask them 'help me' and I interact a little more. The small details as 'comb up, get up or wear your shoes' helped them to be more active." (DCW8, experimental group)
>
> "Now, we communicate more frequently with residents or let them cooperate during care practices." (DCW9, control group)

When asked about hindering factors, *workload,* as a result of the *lack of time and the shortage of staff*, was highly emphasized. According to several participants, this constrained DCWs' ability to communicate and foster the residents' active participation during morning care routines:

> "We would like to have more possibilities to let them [residents] participate, but we can't." (DCW10, experimental group)

Participants missed collaboration from their managers and reported feeling unappreciated as they obtain no recognition for their physically and emotionally labor-intensive care. This lack of recognition was stated to discourage practice change and to enhance dissatisfaction:

> "There is a lack of collaboration from managers, a lack of interest to hear us and a lack of support and recognition of our work. If we had it, we probably were more motivated to improve practice." (DCW5, control group)

Also, DCWs considered that many of their skills were developed from practice, often through years of experience, which is associated with some resistance to change. Change, according to participants, is harder given *the short duration of the intervention.*

Discussion

This study sought to assess the effects of a PCC based PE on DCWs' work-related stress, burnout, and job satisfaction.

Significant differences were found for EE (MBI): the experimental group score for this variable was significantly reduced after the intervention whereas in the control group, it increased significantly. This suggests that providing emotional support along with knowledge and skills for PCC can be effective in reducing DCWs' burnout.

Data obtained from the focus-group interviews provided information that may have contributed to this result. According to qualitative data, both interventions improved participants' feelings of worth, awareness of PCC, and knowledge about dementia and the person. Yet, participants from the experimental group also reported enhanced group cohesion, emotional management, and self-care awareness, which have been considered important determinants of EE.[33] These findings suggest that education—common to both groups—can provide DCWs with useful knowledge and skills relevant for quality dementia care. However, adding a supportive component to educational interventions might be a key ingredient to lessen DCWs' burnout as it enables them to nurture positive relationships at work, to better regulate their emotions, and to effectively cope with distress. Without emotional support, workers can possess fewer abilities to cope with their emotions when faced with challenging situations.

No significant effects were obtained for DP and PA. Nevertheless, burnout is believed to be a process that begins with EE and develops over time.[34] The reduction in the exhaustion level predicts changes over time in the 2 other components. Besides, DP and PA are highly resistant to change.[34]

The experimental group showed a positive but nonsignificant change from pre- to posttest on perceived stress and job satisfaction. Three factors could account for these findings. The first has to do with the possible lack of responsiveness of the outcome measures to changes over time. The PSS asked participants to rate how they have been feeling over the last month, which can be a short period of time to capture meaningful changes on stress levels. The MSQ is based on the conceptualization of job satisfaction as a multidimensional construct, including several aspects that were not covered by the intervention (eg, managers' support and organization conditions).

The second relates to organizational characteristics. From qualitative data, it was possible to discern that DCWs' outcomes can be affected by perceptions of workload and poor leaderships' support. This is consistent with findings from previous studies.[35-37] Efforts to intervene at the organizational level could be a determinant to engendering more positive impact on DCWs' stress and job satisfaction. This could be accomplished by extending the focus of interventions to service and top-level managers so that they could provide DCWs with constructive feedback and supervision or make the necessary modifications in the organizational structures for DCWs use the new skills.[38]

Finally, participants from both groups were assisted during morning care routines, which might have reduced the differences between them. Individual assistance is considered a key complementary factor to educational sessions that helps to endorse practice change.[39] Still, by allowing workers to have immediate guidance and support to handle challenging situations, it can have an independent effect on DCWs' stress and job satisfaction. The impact of individual assistance on DCWs' outcomes is worthy of further consideration.

Some limitations should be acknowledged. First, the relatively small sample size could have reduced the statistical power to detect more significant changes. Second, results may have been influenced by the short implementation period. A small study period has been selected, given the risk that the intervention could create an additional burden for DCWs. However, according to the qualitative data, this burden was inexistent as participants stressed the need for a longer intervention to attain greatest effects. Third, although participants were blinded to the experimental or the control group, it was not possible to blind the researchers to the intervention or assessments. Therefore, studies with larger samples, longer implementation periods, and a double-blind design should be conducted to clarify these findings. At last, participants were recruited after the clusters have been randomly allocated which could have led to selection bias. It is possible that significantly different levels of residents' challenging behavior or other important confounding variables could have accounted for the modest posttest effects but further research is needed to clarify this.

Despite the limitations, the results of this study provide preliminary evidence of the effectiveness of a PCC-based PE intervention on DCWs. The findings are encouraging and highlight the importance of interventions to go beyond DCWs' knowledge and instrumental skills to also address emotional and relational competences, including interpersonal and self-care skills, which have been considered important determinants of DCW's strain.[4,5] The importance of this has been acknowledged within the "relationship-centered care."[40] Relationship-centered care is an approach that captures the important dimensions of interdependent relationships necessary to create an enriched environment of care in which the resident and workers' needs are addressed.[38] It is therefore suggested as a promising framework for future interventions within the long-term care context.

Also, this study relies in a mixed methodology that can leverage the benefits of both quantitative and qualitative methods, offering a comprehensive analysis and interpretation of the data. Qualitative data were invaluable as it revealed in more detail how DCWs perceive the effects of the intervention while enabling new avenues of research to develop. This includes the need to extend the focus of interventions to top-level managers in order to minimize organizational factors of DCWs' strain and dissatisfaction.

Acknowledgments

The authors gratefully acknowledge all institutions and DCWs for their participation in this study. We are also grateful to Dr. Alda Marques for providing management support and Dr. Sara Guerra for the important support in conducting the group sessions.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This work was supported by the Portuguese Foundation for Science and Technology (FCT) [Grant number SFRH/BD/72460/2010].

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