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Person-centeredness in direct care workers caring for residents with dementia: effects of a psycho-educational intervention

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Person-centeredness in direct care workers caring for residents with dementia: effects of a psycho-educational intervention

Objectives: This study assessed the effects of a psycho-educational intervention on direct care workers' person-centeredness during morning care to residents with dementia. **Design:** An experimental study with a controlled pretest-posttest design was conducted in four aged-care facilities with fifty-six direct care workers (all female, mean age 44.72±9.02). Two experimental facilities received a psycho-educational intervention aiming to promote workers' person-centred care competences and stress management; control facilities received an education-only intervention, with no support to manage stress. Participants were video-recorded during morning care provision, before and two weeks after the intervention. A total of 112 video-recordings were coded for person-centred care using the Global Behaviour Scale (GBS). **Results:** Participants from both groups reported significantly higher scores on eight of eleven items of the GBS. Also, positive significant differences were obtained in both groups for the GBS total score at post-test (F=10.596; p=0.02); improvements were higher for the experimental group, with values nearly reaching the level of significance (F=3.906; p=0.054). **Conclusion:** The overall findings suggest that a psycho-educational intervention is a feasible means to increase direct care workers' person-centeredness. However, these are preliminary results and further research is needed to explore the long-term sustainability and extent of the benefits of this intervention on both workers and residents with dementia.

Keywords: aged care facilities; behaviour; dementia; direct care workers; person-centred care

Introduction

In the past decade, there has been a surge of interest in person-centred care (PCC) as a means of improving the care provided to people with dementia in aged-care facilities (Kitwood, 1997).

Person-centeredness has its roots in the humanistic psychology (Rogers, 1961), and was later contextualized into dementia care by Kitwood (1997) as a response to "malignant social psychology", i.e. caregiving relationships which devalue, dehumanize and depersonalize the person with dementia. Ideas about PCC have been discussed by several authors, with the term being commonly used to describe an approach to practice that strives to maintain personhood in spite of declining cognitive ability and that recognizes that an individual's life experience, unique personality and network of relationships should be valued and taken into account (Brooker, 2007; Kitwood, 1997; McCormack, 2004).

According to previous studies (Grosch, Medvene, & Wolcott, 2008; White, Newton-Curtis, & Lyons, 2008) the implementation of PCC in aged-care facilities can be operationalised at two main organizational levels: i) institutional, through for example, flexible policies that allow residents to participate fully in their environment, respect the residents' right to privacy and dignity or value and foster individual interests; ii) interpersonal, through workers' relationship behaviours and skills more focused on the person rather than the task (e.g., showing interest, orientating the resident to task, offering choices or providing positive feedback).

A small but growing literature has focused on the latter level, as evidenced by the development of significant theoretical frameworks, such as the 'relationship-centred care' (Nolan, Davies, Brown, Keady, & Nolan, 2004), and the design and implementation of PCC-based education programs to increase the relational behaviours

of the direct care workers (DCWs) (i.e. workers that are most closely involved in providing care to residents) during specific care tasks (McGilton et al., 2007; Williams, Kemper, & Hummert, 2003). Despite the important contribution of these studies, they present two major limitations. First, the recognition that educational interventions have limited efficacy for improving DCWs' behaviour (Nolan et al., 2008). Hence, previous research having shown that DCWs' emotional wellbeing also affects their interactions (Drebing, McCarty, & Lombardo, 2002; Edvardsson, Winblad, & Sandman, 2008). Moreover, heavy workloads, interpersonal conflicts or lack of management support threaten DCWs' emotional wellbeing, and are associated with high levels of stress, burnout and dissatisfaction and reduced quality of care (Edvardsson, Sandman, Nay, & Karlsson, 2009; Gray-Stanley & Muramatsu, 2011).

Second, few studies have included direct assessments whether or not the intervention actually increased the DCWs' person-centeredness. Most intervention studies have relied on proxy and self-report outcome measures or newly developed tools lacking widespread use and validation (Edvardsson & Innes, 2010). Besides, when direct measures have been used (Van Weert, Vandulmen, Spreeuwenberg, Ribbe, & Bensing, 2005), the purpose was to code or count specific behaviours, which might omit information about its quality or functions.

The purpose of this study was therefore to assess the effects of a psycho-educational (PE) programme on the quality of DCWs' interactions with residents with dementia. It is hypothesized that compared to education-only, an intervention offering both educational and support for stress and emotional management contributes to more person-centeredness during morning care.

Methods

Design

This experimental study used a controlled pretest-postest design. The study was conducted in four aged-care facilities. Recruitment was as follows: (1) facilities were matched for staff/resident ratio and proportion of residents with dementia; (2) two pairs of facilities were approached for participation; (3) managers of each selected facility were contacted to introduce the study and asked about their willingness to participate; no simultaneous participation in similar studies and no significant organisational changes during the intervention implementation had to be ensured; iv) facilities within each pair were randomly assigned to the experimental group – PCC-based PE intervention - or control group – PCC-based education-only intervention - using a random number generator. Study facilities were private, non-profit institutions of mixed accommodation with a staff/resident ratio between 1:2 and 1:3 and a residents with dementia/total of residents' ratio between 1:3 and 1:5.

Participants

DCWs were included if they: (1) provided morning personal care (i.e. period of time between 07am and 12am when DCWs are involved in activities related to bathing, grooming, dressing and toileting) to people with dementia on a regular basis; and (2) were employed for at least 2 months, so that adaptation to residents had already occurred. Temporary DCWs and trainees were excluded as it was not possible to ensure their participation until the end of the study.

Following an initial screening by the service managers of each facility, a meeting with potentially eligible DCWs was scheduled to inform them about the purpose of the study and what their participation entailed. All 58 eligible DCWs agreed to participate and entered the study at baseline – 27 in the experimental group and 31 in

the control group. Of these, 56 had completed the post-test assessment. Dropouts (n=2) occurred in the control group (DCWs were absent from work).

Intervention

PCC-based PE intervention

The experimental facilities received a PCC-based PE intervention informed by: (1) relevant literature on PE approaches, PCC and dementia (Barbosa et al., 2013; Chenoweth et al., 2009; Van Weert et al., 2005); (2) findings from a previous pilot study conducted by the authors' research team [names deleted to maintain the integrity of the review process]; and (3) interviews with DCWs and managers about instrumental and emotional needs [names deleted to maintain the integrity of the review process].

The intervention included 8 weekly group sessions of approximately 90 minutes led by a gerontologist and a physical therapist, both trained in PCC approaches and psycho-educational groups. Each session followed a similar format, organised into two components: education and support (Table 1).

The educative component was intended to enhance DCWs' knowledge and skills concerning person-centred dementia care. Content was mainly focused on strategies to interact with residents with dementia, particularly verbal and non-verbal communicative strategies, motor and multisensory stimulation strategies (Table 2). In order to clarify doubts and make suggestions to help DCWs implement a more PCC, in the 3 days after each session the gerontologist and the physical therapist assisted each DCW individually during morning care.

The supportive component aimed to improve DCWs' ability to cope with job-related stress and burnout, and included two parts: strategies to manage work-related stress and prevent burnout (e.g., time-management, problem-solving and teamwork) and

a final moment of relaxation or physical exercise. Participants were encouraged to apply these coping strategies during working hours or in their home and to discuss these efforts during the meetings.

A variety of active learning methods were used across sessions, such as brainstorming, role-plays, case studies or task assignments.

PCC-based education-only intervention

Control facilities received an education-only intervention. The frequency, coordination, length, order and content of the sessions were the same of the educational component of the PE intervention. It was the absence of the supportive component that distinguished both interventions. Each participant was assisted during morning care by the same professionals, who helped DCWs to deliver a more PCC and clarified doubts that emerged from sessions.

[Table 1 near here]

[Table 2 near here]

Data Collection

DCWs' socio-demographic data (gender, age, education, marital status and length of time working in the facility) were first collected through a structured questionnaire.

In order to assess DCWs' person-centeredness, morning care interactions were video-recorded at baseline and two weeks after the intervention. Video-recordings occurred in the resident's bedroom and covered mouth care, toileting, washing face, and brushing hair. To preserve residents' privacy, bathing was not recorded. Recordings started at the moment the DCWs entered the room and stopped when they left. To minimise participants' reactivity, several strategies were considered: (1) a number of

recordings were performed prior to data collection to familiarise participants with the methodology; (2) DCWs were instructed to stop or remove the camera if they noticed any resident's behaviour change caused by the device presence; (3) once the cameras were adequately positioned (i.e., from the best viewpoint while not interfering with care), the researcher asked DCWs to provide care in the manner they normally would and left the room to avoid a further source of disruption; and (4) each DCW was intended to be video-recorded thrice in the baseline and thrice after the intervention.

From a total of 332 videos (164 at baseline and 168 at post-intervention; average duration=510 seconds) 112 videos (two videos by DCW, one for each time point) were randomly selected to be coded by the 1st author using the Global Behaviour Scale (GBS) (Grosch et al., 2008). GBS is used to make global judgements about the quality of interactions. It consists of 11 items organised in a 7-point semantic differential format (e.g., "Put task before person" (1) versus "Put person before task" (7)). Scores for each of the 11 items are added and divided by the total number of the GBS (total=77) to determine the DCWs average score. Higher scores indicate more PCC behaviours. GBS has demonstrated high internal consistency, with a Cronbach's alpha coefficient (α) of 0.91 for the original version.

Inter-observer reliability

The assessment of inter-observer reliability of the GBS was performed by two independent coders (1st author and a doctoral student) using 30% of the videos (n=34 videos). This value is similar to those of previous studies (Bourgeois, Dijkstra, Burgio, & Allen, 2004). The intra-class correlation coefficient (ICC) equation (2.1) and the Bland and Altman method were calculated for each moment (pretest and posttest).

The ICC (2.1) values were interpreted as follows: >0.75 was excellent, 0.40–0.75 was moderate and <0.40 was poor (Fleiss, 1986). The values obtained for the ICC were 0.73 (0.36-0.92) at baseline and 0.91 (0.66 -0.97) after the intervention, indicating a moderate to excellent reliability. Bland and Altman 95% limits of agreement were measured and the scatter plots were analysed. A good agreement between the coders was found and no evidence of proportional bias was observed.

Data analysis

Socio-demographic characteristics of the groups at baseline were characterised using descriptive statistics and compared with independent t-tests for continuous data or χ^2 tests for categorical data. The independent t-test was also used to compare baseline GBS total scores.

In order to determine whether there were any differences on the GBS scores from pre to post-test between and within the groups, a repeated measures ANOVA was conducted with the group (experimental, control) defined as a between-subjects factor and time point (baseline, post-test) as a within-subjects factor. Partial eta squared (η^2) is reported as an index of effect size and interpreted as small (≥ 0.05), medium (0.05-0.25), large (0.25-0.50) and very large (≥ 0.50) (Cohen, 1988).

The alpha level for statistical significance was set at 0.05 throughout. All analyses were conducted using the SPSS v20.0 (IBM Corp., Armonk, NY).

Ethical issues

The study received full approval from the Health Sciences Research Unit: Nursing (UICISA: E), hosted by the Nursing School of Coimbra, Portugal (Ref. 5-11/2010).

All DCWs were informed about the voluntary nature of their participation and their anonymity and confidentiality were assured. Written informed consent was obtained. To ensure protection for individuals with cognitive impairment, both assent (from the individual with cognitive impairment) and consent (from their legal guardian) were obtained.

Results

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% high school. The average length of service was 9.61±3.72 years. No significant differences were found between the groups in terms of socio-demographic data (Table 3).

Baseline total GBS scores did not differ significantly between groups. Mean scores of 46.60 (±16.30) and 49.39 (±13.10) were obtained for the experimental and control groups respectively (Table 3).

[Table 3 near here]

Table 4 shows the results of the repeated measures ANOVA. Participants from both experimental (mean pre-test=46.60±16.30; mean post-test=56.71±17.56) and control groups (mean pre-test=49.64±13.32; mean post-test=52.79±15.33) reported significantly higher scores on GBS total score at post-test as compared to those at baseline (F=10.596; p=0.000; η^2= 0.175). Improvements were higher for the experimental group, with values very close to significance (F=3.906; p=0.054; η^2= 0.071).

The majority of the GBS items has significantly improved in both groups: 'treating like a person vs. treating in stereotyped way' (p =0.001); 'treating as worthy of a relationship vs. indifferent to bond or connection' (p=0.000); 'put person before the

task vs. put task before the person' (p=0.001); 'providing positive social environment vs. not providing positive social environment' (p=0.008); 'working cooperatively vs. working in a directive manner' (p=0.000); 'affirming vs. over nurturing' (p=0.003); 'tolerates frustration vs. intolerant' (p=0.04) and 'positive affect vs. negative affect' (p=0.006). A significant interaction effect was found on only one item – 'put person before the task vs. put task before the person' (p=0.021) - with both groups showing improvement.

[Table 4 near here]

Discussion

This experimental study sought to assess the effects of a PCC based psycho-educational intervention on DCW's person-centeredness during morning care to residents with dementia. The overall results evidenced that both groups showed positive significant differences from pre to post-test on eight of eleven items of the GBS. As well, positive significant differences were obtained in both groups for the GBS total score. These findings emphasize that PCC based education-only interventions can be effective in changing DCWs' behaviours. However, the PE intervention had a broader impact, with findings at the limits of significance (p=0.054). Although non-significant between groups, findings are relevant and suggest that adding a supportive component to education-only interventions might better prepare them to espouse PCC. It is possible that addressing DCWs' emotional needs might improve workers' awareness and evaluation of their own and residents' emotions and potentially improve the quality of the care provision. Being better equipped to recognize and manage emotions may allow workers to experience fewer incidents of job related stress, burnout and dissatisfaction, which are recognised to negatively impact DCW-resident relationship (Edvardsson,

Sandman, Nay, & Karlsson, 2009; Gray-Stanley & Muramatsu, 2011). This is further supported by the results published in an earlier study that had suggested that a PE intervention can reduce DCWs' emotional exhaustion (Barbosa, Nolan, Sousa, & Figueiredo, 2014). The importance of DCWs' emotional support to develop interactions is still understudied in the field of gerontology. However, the relevance of this has been recently acknowledged within the 'relationship-centred care' (RCC) (Nolan et al., 2004). RCC takes the concept of PCC one step further by capturing the important dimensions of interdependent relationships necessary to create an enriched environment of care in which the residents and workers' needs are addressed (Nolan et al., 2004). This represents a promising framework for future interventions within the long-term care context.

The finding that both groups recorded values close to zero in item 3 ('respecting dignity vs. not respecting dignity') is worth of consideration. In order to assign a rating to this item the caregiver needed to be engaged in behaviours as covering up the resident during a task or keeping doors or curtains closed. While these behaviours make evident person-centeredness, they were not always observed during morning care provision. This occurred because several recorded tasks did not require that the person was covered or the camera position inhibited to capture if the doors or curtains were closed. As behaviours were not observed the item was assigned with zero.

A few limitations have to be considered. First, the findings are limited by the fact that the relatively small sample size could have reduced the statistical power to detect significant changes between groups. The individual assistance during morning care in both groups can also offer an explanation for the lack of significant differences. The extent to which individual assistance may help to endorse practice change is worthy of further consideration.

Second, it was not possible to blind the researchers to the experimental or control groups or assessments. Future studies with a double-blinded design should be conducted to clarify findings. Moreover, it could be useful to assess the long-term effects of this intervention, as it may take time to DCWs practice and stabilize their performance. Finally, although efforts were made to overcome participants' reactivity, it is possible that video-recording may have led DCWs to modify their behaviour.

Nonetheless, the current study contributes to the literature by providing relevant and unique knowledge about the effects of a pioneering intervention on DCWs' person-centeredness. With the increasing demand for person-centred care, it is essential to address DCWs' strain, by promoting effective teamwork, time management, problem-solving or peer relationships, as this can also improve the quality of care provided. The use of GBS to assess person-centeredness is also worthy of consideration. Commonly, behavioural measures have been used for recording specific behaviours; however, a global measure like GBS can be more responsive in measuring the manner in which behaviours are enacted. Indeed, DCWs can give residents a choice, but can do so in ways that communicate genuine interest or in ways that are mechanical and rote (Lann-Wolcott, Medvene & Williams, 2011). Through GBS it is possible to assess the quality of DCWs' behaviours. The high inter-observer reliability obtained for the scale further supports its reliability and validity to measure PCC.

Conclusion

This study provides preliminary evidence supporting the value of interventions to go beyond DCWs' knowledge and instrumental skills to also address emotional and relational skills, as this holds promise as a means of improving person-centeredness. This approach represents an alternative to better prepare DCWs to interact with

residents with dementia, but so far this has received little attention in the literature. Thus, further research is needed to explore the long-term sustainability and extent of the benefits of this intervention on both DCWs and residents with dementia.

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Table 1. Content of the psycho-educative intervention

Session	Themes
1	Information about PCC and dementia
	Emotional impact of caregiving
2	Communication in dementia
	Conflict management
3	Challenging behaviours
	Teamwork
4	The environment and dementia
	Deal with emotions
5	Motor stimulation.
	Time management
6	Multisensory stimulation - olfaction
	Problem-solving
7	Multi-sensory stimulation – vision and tactile stimulation
	Relaxation
8	Multi-sensory stimulation – audition and taste
	Finalisation and celebration

Table 2. Strategies to interact with the person

Verbal and non-verbal communication strategies
Maintain eye contact
Face the resident directly
Address the resident by name
Give short, simple and direct instructions
Give positive feedback when resident follows direction
Talk about resident's life history

Multisensory stimulation
Use a shower gel or a body lotion with a pleasant fragrance
Place aroma diffusers in the bedroom
Let the person feel the texture of the sponge bath or the warm towels
Provide a gentle massage while washing his/her hair
Put a relaxing music in the bedroom while dressing and grooming
Reduce the noise created by machinery, voices, slamming doors, loud music or other existing sounds

Motor stimulation
Encourage the person to perform one task, or a part of it (e.g. wash the arms, help remove the foam from the body), by giving him/her small and simple instructions, step by step
Demonstrate how to make the task
Give physical guidance or use gestures during the completion of the task
Avoid rushing the person during the task
Encourage the person and praise him/her after the completion of the task
Ask the person to participate in simple tasks, introducing progressively more complex tasks

Table 3. Baseline characteristics of DCWs (n=58)

Outcome	Total (n=58) N (%)	Experimental group (n=27) N (%)	Control Group (n=31) N (%)	p-value
Gender				
Female	58 (100.0)	27 (100.0)	31 (100.0)	-
Age in years				
M (SD)	44.72 (9.02)	43.37 (10.00)	45.90 (8.04)	0.290[a]
Marital Status				
Married	39 (67.2)	17 (63.0)	22 (71.0)	
Widowed	3 (5.2)	1 (3.7)	2 (6.5)	
Single	4 (6.9)	2 (7.4)	2 (6.5)	0.887[b]
Divorced/separated	9 (15.5)	5 (15.5)	4 (12.9)	
Other	3 (5.2)	2 (7.4)	1 (3.2)	
Education				
Primary school	15 (25.9)	4 (14.8)	11 (35.5)	
Middle school	12 (20.7)	6 (22.2)	6 (19.4)	
High school	24 (41.4)	11 (40.7)	13 (41.9)	0.144[b]
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)	0.678[a]
Global Behaviour Scale scores				
M (SD)	48.00 (14.71)	46.60 (16.30)	49.39 (13.10)	0.693[a]

[a] t-test student; [b] χ^2
M= Mean; SD= Standard Deviation

Table 4. Results of the repeated measures ANOVA

GBS items	Experimental group ±n=27		Control group ±n=31		p-value[a]	p-value[b]	η^2
	Pre-test	Post-test	Pre-test	Post-test			
1.Treating like a person vs. Treating in stereotyped way	4.03±1.22	4.56±1.31	3.79±1.23	4.20±1.23	0.001	0.148	0.067
2.Treating as worthy of a relationship vs. Indifferent to bond	2.92±1.59	4.22±2.02	3.45±1.86	4.10±1.37	0.000	0.164	0.035
3.Respecting dignity vs. Not respecting dignity	0.55±1.62	0.89±2.10	0.28±1.07	0.00±0.00	0.903	0.199	0.030
4.Put person before the task vs. Put task before the person	3.88±1.60	4.11±1.55	3.93±1.30	4.96±1.45	0.001	0.021	0.096
5.Providing positive social environment vs. Not providing positive social environment	3.07±1.96	4.04±1.72	3.31±1.71	3.72±1.49	0.008	0.273	0.022
6.Working cooperatively vs. Working in a directive manner	3.11±1.71	3.96±1.84	3.86±1.64	5.10±1.65	0.000	0.387	0.014
7.Affirming vs. Over nurturing	4.56±1.05	5.11±1.42	4.57±1.06	5.14±1.23	0.003	0.965	0.000
8.Tolerates frustration vs. Intolerant	4.29±1.10	4.85±1.48	4.71±1.21	4.89±1.47	0.040	0.285	0.022
9.Takes likes/dislikes into account vs. Ignores likes/dislikes	2.22±1.45	2.88±1.82	2.21±2.02	2.53±2.04	0.081	0.536	0.007
10. Responsive to spontaneous needs vs. Unresponsive to needs	3.37±1.27	3.70±2.01	3.21±1.89	3.75±1.75	0.087	0.686	0.003
11. Positive affect vs. Negative affect	3.85±1.56	4.85±1.51	3.93±1.76	4.21±1.54	0.006	0.116	0.046
Total GBS	46.60±16.30	56.71±17.56	49.64±13.32	52.79±15.33	0.000	0.054	0.071

Data are presented as mean±standard deviation. [a]Time; [b] interaction time*group. η^2=Partial eta squared