A Person-Centered Care Intervention for Geriatric Certified Nursing Assistants

Carissa K. Coleman, PhD,1,* and Louis J. Medvene, PhD2

1University of Kansas, School of Nursing.
2Department of Psychology, Wichita State University.

*Address correspondence to Carissa K. Coleman, PhD, University of Kansas, School of Nursing, 3901 Rainbow Boulevard, Kansas City, KS 66160
E-mail: ccoleman3@kumc.edu.

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Purpose: To pilot test a multicomponent intervention to increase certified nursing assistants’ (CNAs) awareness of person-centered care. To establish the feasibility of implementing an intervention involving videotaped biographies of residents and videotapes of resident/CNA caregiving interactions. Design and Methods: A training program was provided at two nursing homes (NHs) using a wait-list control design. Levels of dyadic relationship closeness and satisfaction were compared prepost. Video recordings of CNA/resident interactions were coded for person-centered care using two observational instruments. Results: Based on data from 19 resident/aide dyads, the findings were that resident’s perceptions of relationship closeness increased significantly posttraining at both NHs, NH1, z = −1.89, p < .05, and the NH2, z = −1.95, p < .05. Effects were also seen with the CNA’s perceptions of satisfaction and closeness, and resident satisfaction. Implications: The findings suggest that this type of intervention is feasible and warrants further research.

Keywords: Person-Centered Care, Nursing Homes, Caregiving Relationships, Certified Nursing Assistants (CNAs)

The number of older adults will increase in the U.S. population from 12% to almost 20% between 2005 and 2030 (Institute of Medicine of the National Academies, 2008). In order to prepare for this increase, the IOM report recommends improving the long-term care system to “enhance the competence of all individuals in the delivery of geriatric care . . . to redesign models . . . and broaden provider and patient roles to achieve greater flexibility” (p. 2). Focusing on the quality of resident/certified nursing assistant (CNA) relationships as part of caregiving is relevant. Because CNAs typically provide 80%–90% of the direct care to residents, their ability to provide quality interpersonal care is regarded as an important determinant of resident outcomes (Bowers, Esmond, & Jacobson, 2003; Heliker and Nguyen, 2010; McGilton et al., 2003). The present pilot study was intended to establish the feasibility of developing and evaluating person-centered training materials for CNAs, using observational methods.

Relationships and Person-Centered Care

Within gerontology, Kitwood’s (1997) work has emphasized focusing on the person rather than the
disease. Kitwood's writings, and the work it has inspired, place great emphasis on the belief that older adults, especially those with dementia, have a desire to be known, respected, and connected with others (McCormack, 2004). Related efforts to improve the quality of long-term care (LTC) have been stimulated by quality improvement reforms in the Omnibus Budget Reconciliation Act of 1987 and “culture change” efforts to reshape the philosophy of LTC (McCormack, 2004). The “culture change” movement has moved the field toward recognition that “. . .maintaining a community of relationships is important at every phase of life, but especially critical for elders and the aging” (http://pioneernetwork.net/AboutUS/—accessed 2/28/11).

A wide variety of terms are being used to describe this shift toward providing care in settings that are more homelike and in ways that are more responsive to residents’ preferences, for example, person-centered care, person-directed care, resident-centered care, etc. White and colleagues (2008) recently operationalized “person-directed” care and demonstrated that it is a multidimensional construct. Using exploratory factor analysis with a 64-item questionnaire, White identified five factors, which assessed different dimensions of person-directed care. Of most interest here—because of the focus on the development of personal relationships between residents and aides—are the clearly interpersonal factors: “Personhood,” practices emphasizing each person’s uniqueness and inherent value; “Knowing the Person,” practices promoting staff knowing each resident’s life story, values, needs, and preferences; and “Nurturing Relationships,” practices supportive of environments which reduce social isolation and promote friendships. Also of interest was “Autonomy,” caregiving practices which support personal agency. The purpose of this study was to further define the interpersonal aspects of person-centered care by developing and testing an intervention to promote the interpersonal aspects of person-centered care.

**Study Overview and Hypotheses**

The goal of this Phase I pilot study (Thabane et al., 2010) was to draw on the research literature to develop a training intervention with several different components intended to improve the interpersonal aspects of person-centered care and to evaluate the feasibility and impact of this intervention. The training emphasized specific communication and relationship-building skills and used videotaped materials to teach these skills and increase CNAs self-awareness. Theoretically such behaviors are person centered, in Kitwood’s terms, because they promote relationships between people who are viewed as capable of meaningful speech and action. It was hypothesized that by teaching CNAs to relate to, care for, and think about residents as unique individuals, CNAs would provide care in more person-centered ways, which would result in both the CNA and resident feeling closer and more satisfied with their relationships. The development of the intervention for this study was guided by three themes evident in the research literature: person-centered caregiving requires a behaviorally operationalizable set of communication and relationship-building skills (Lann-Wolcott, Medvene, & Williams, 2011; Levy-Storms, 2008; Williams, 2003); person-centered caregiving involves the development of personal relationships (Heliker, 2009; McGilton et al., 2003); and increasing CNAs’ self-awareness regarding their enactment of communication and relationship-building behaviors will promote their use (Williams, 2006).

**Method**

This section describes the intervention and it’s development. The research design and settings are also described along with the research participants, the procedures, and the research instruments.

**Intervention**

One purpose of the intervention was to identify and operationalize person-centered caregiving behaviors. Both communication and relationship-based interventions in the research literature were used to identify verbal and nonverbal behaviors included in the training. In terms of identifying communication skills, Levy-Storms (2008) completed a literature review of interventions with CNAs aimed at improving their “therapeutic” communication behaviors. Verbal behaviors cited in Levy-Storms’ review and used here include CNAs making statements, which were positive and socially validating, as well as statements which oriented residents to the caregiving task. Nonverbal behaviors included making eye contact, using affective touch and smiling.

Williams (2003) created and evaluated an intervention to decrease “elderspeak,” a patronizing way of addressing elders, and to positively
alter emotional tone, which was defined as caring, respectful, and less controlling communication behavior. Her study showed that placing an emphasis on emotional tone was highly effective and that self-awareness on the part of the CNAs was a powerful tool in changing their communication style. In this study, emotional tone was operationalized in terms of the nonverbal behavior of “voice quality,” which was defined as “speaking in a calm voice that is audible and respectful of the resident.” Elderspeak was countered in this study by including the verbal behaviors of “giving choices” and “asking resident for help or cooperation.”

In order to teach the CNAs to identify person-centered care behaviors, the CNAs were shown a 5-min video in Session 1 (Table 1). This video, *Putting Person Before Task*, featured two aides demonstrating person-centered caregiving (Grosch, Medvene, & Wolcott, 2008). Students were given a behavioral checklist, which helped them to identify verbal and nonverbal communication behaviors demonstrated in the video. The checklist included the behaviors indicated earlier and behaviors taken from the Person-Centered Behavioral Inventory (PCBI), a behavioral coding system, used to measure person-centered care (Lann-Wolcott et al., 2011). The behavioral checklist was also used for the homework assignment CNAs were given for the fourth session. The homework asked aides to privately watch a video of themselves providing care to their resident and to evaluate their behavior (Table 1, Session 3, Homework). During the fourth session, the aides watched their caregiving videos as a group and discussed their behaviors based on the checklist (Table 1, Session 4). The use of these caregiving videos to promote aides’ self-awareness is described more fully later in this section.

The second theme of the intervention stressed the idea that caregiving involves the development of personal relationships. The research literature included studies which identified behaviors commonly used to build and maintain relationships.

<table>
<thead>
<tr>
<th>Table 1. The Person-Centered Care (PCC) Intervention Sessions 1–4</th>
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<tbody>
<tr>
<td><strong>Session outline</strong></td>
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<tr>
<td>Session 1: 1 hr</td>
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<tr>
<td>PCC powerpoint Part 1 and handout</td>
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<tr>
<td>Putting person before task video</td>
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<tr>
<td>Caregiving interaction worksheet</td>
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<tr>
<td>Discussion</td>
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<td>Session 2: 1 hr</td>
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<tr>
<td>PCC powerpoint Part 2</td>
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<tr>
<td>Resident videotaped biography</td>
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<tr>
<td>In-class video worksheet</td>
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<tr>
<td>Discussion</td>
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<td>Homework</td>
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<td>Session 3: 1 hr</td>
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<tr>
<td>Discussion</td>
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<tr>
<td>Homework</td>
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<td>Session 4: 1 hr</td>
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McGilton and coworkers (2003) trained caregivers to increase relational behaviors such as expressing interest in the residents’ personal lives above and beyond the caregiving task, empathizing with the resident’s emotions, and adjusting the pace of their caregiving to the resident’s pace. McGilton’s training led to a significant increase in caregivers’ relational behaviors as reported by residents and by observers.

Heliker, (2009) created an intervention called “story sharing,” which was aimed at creating personal relationships between CNAs and residents. Heliker taught staff how to engage the resident in self-disclosure using self-narratives. Heliker’s logic was that stories are important to self-identity and sharing them can build trust, cultivate understanding, transfer knowledge, and generate emotional connections. Feedback from the CNAs was positive, and both residents and CNAs saw each other as being in relationship. Heliker’s ideas were also incorporated into the training here.

The training here introduced behaviors identified in McGilton and coworkers’s (2003) and Heliker’s (2009) research via written materials. Session 2 introduced aides to relationship skills including the appropriate use of self-disclosure, reciprocity, cooperation, trust/dependability, and partner-perspective taking (Table 1, Session 2). Heliker’s storytelling concepts were included by way of asking aides to watch a videotaped biography of the resident for whom the CNA provided care. Each aide watched a 12- to 16-min videotaped biography, which was an edited version of the resident’s life history that had been created prior to the training by the first author. The purpose of the video was for the CNA to learn about their resident as a person so they would be better able to engage them in conversation. As a homework assignment for the third session, aides were asked to watch the videotaped biography of their resident. During the third session, aides were asked to discuss with the group what they had learned about their resident and how they could use this information in their caregiving (Table 1, Session 2 homework and Session 3). The training also taught CNAs about reciprocity, interviewing skills, and partner-perspective taking (Table 1, Session 3). Emphasizing personal relationships was innovative in that historically CNAs have been encouraged to keep a “professional distance,” without discussion as to what appropriate personal relationships might look like in a long-term nursing home setting (Bowers et al., 2003, Medvene & Coleman, 2012).

The last theme of the intervention was the use of video to raise self-awareness. The research literature also provided the basis for a strategy to increase CNAs’ self-awareness regarding their caregiving behaviors. Williams (2006) used the technique of audio-recording CNAs’ caregiving interactions, transcribing them and then giving CNAs the text in order to illustrate their use of elderspeak. This training helped CNAs reduce their use of elderspeak. In this study, a brief personalized video was created of each aide providing care to his or her resident. These caregiving videos were recorded prior to the training. CNAs were asked to watch their caregiving videos as a homework assignment in preparation for Session 4. During Session 4, aides discussed, as a group, their caregiving videos and how they might be more person centered with their resident (Table 1, Session 3, homework, and Session 4).

Drawing on these materials, the first author created four 1-hr sessions, which are outlined and described in Table 1. Handouts and homework were included to assist the CNAs in thinking critically about the information presented and applying it to their current experiences. Once completed, a committee of clinical staff from the health care system and a consultant assisted in finalizing the sessions and materials. The training also included a 2-week period of follow-up supervision during which time the trainers at each nursing home (NH) observed their CNAs on the job and provided feedback. The total intervention period was 6 weeks.

Research Design and Settings

The training intervention was evaluated by using two NHs from a private Midwestern health care system in a quasieperimental, wait-list control design. At both facilities, each of 12 residents was paired with one of the CNAs who was routinely assigned to care for them. CNAs at both facilities participated in four 1-hr, weekly training sessions followed by 2 weeks of supervision. The training was evaluated by using behavioral coding of brief resident/CNA caregiving interactions, which were videotaped before and after training. Additionally, both residents and CNAs were asked about their perceptions of their relationships with each other before and after training. A wait-list control design was used because it made it possible to assess testing effects. This design also made it possible to replicate the impact of the training in a second site and to assess the impact of differences between
sites. Time 1 measures were taken before training at both sites. Time 2 measures were taken at both sites after the 6-week training at NH1. Time 3 measures were taken at NH2 after the completion of the 6-week training at NH2, approximately 7 weeks after the Time 2 measures. Levy-Storms’ (2008) recommendations about the design of interventions and their evaluation were followed here: Intervention programs should involve 4 hr of training, evaluations ought to involve experimental and control groups, and evaluations should include measures from both residents and nurse aides.

**Settings**

The two NHs were chosen based on their size and the similarity of their policies and procedures. NH1 had 160 residents and NH2 had 92 residents. Both NHs were part of Continuing Care Retirement Communities (CCRCs). Each facility was divided by neighborhoods or courts, with 12–20 residents, whose care was provided by a specific team of nursing staff. NH1 had three neighborhoods, and the CNAs had a more traditional CNA role, whereas NH2 had six courts and the CNAs had more of a universal worker role, which meant they assisted in all of the care, including housekeeping and food services. In both NHs, residents and CNAs from all of the neighborhoods or courts were included.

**Recruiting Participants**

The study was conducted with resident/CNA dyads. Twelve residents, and twelve CNAs, one who worked with each resident, were recruited to participate as a dyad at each site. A sample size of 12 dyads per NH was determined based on feasibility and the number of qualified residents available. At each site, a pool of 20 eligible residents was created, which included residents who were not experiencing a medical crisis and were receiving routine care. Residents’ needed to be able to understand English to be able to respond to questions, be cognitively able to provide informed consent, and had a Mini Mental Status Exam score of at least 20. The residents were randomly selected from a list of residents who met the research criteria; they were then approached by the first author and a representative of the NH and asked to participate in the research. Two choices of CNAs were identified for each of the residents. As the residents agreed to participate, the paired CNA was chosen randomly from the choice of two. If the CNA was already paired with another resident, then the alternate CNA was chosen. If both CNAs had previously been paired with a resident, then this resident was asked to participate only if the previous residents with the same CNAs chose not to participate. This method allowed a random list of residents each with a unique caregiver. This process continued until 12 residents with 12 unique CNAs consented to be in the study. At NH1, a total of 18 residents were asked to participate and 6 (33%) chose not to participate. At NH2, a total of 20 residents were asked to participate and 8 (40%) chose not to participate in the study. Reasons for not participating were privacy or feeling they could not complete tasks. CNAs were eligible to participate if they had been working at the facility for at least 1 month and were working on the first or second shift. At NH1, a total of 20 CNAs were asked to participate. Eight (40%) chose not to participate in the study. At NH2, a total of 17 CNAs were asked to participate. Five CNAs (30%) chose not to participate in the study. Reasons for not participating included privacy concerns or scheduling conflicts. (See Figure 1)

**Procedures**

Once the training intervention was finalized, approval was obtained from the university’s IRB and the health care system. The trainers, a nurse and a CNA, were selected by the NH administration based on their experience. The first author and a consultant trained the trainers at each NH before their respective trainings. Training fidelity was addressed by having the trainers at each NH provide the training to the first author and consultant to demonstrate understanding and knowledge of the training. The nurse and CNA trainers provided all four training sessions 1 week apart in the education training room at each of their respective NHs. A representative of the health care system evaluated training fidelity by attending all of the sessions at both NHs and provided ongoing feedback to the authors throughout the trainings. No modifications were needed, and the trainings at each NH were comparable. After the training sessions, the trainers at each of the sites observed and documented the CNAs’ behavior on the job.

**Videotaping the Caregiving Interaction**

At baseline, the CNAs were each asked what type of caregiving interaction would be appropriate
for videotaping that best typified the type of care he or she provided their resident. The caregiving tasks identified included morning care, afternoon check ins, and physical rehabilitation. The day before the scheduled interaction time, the resident was reminded of the filming. Just prior to videotaping an interaction, the CNA was asked to provide care in the manner they normally would. The first author videotaped the interaction with a small, hand-held camera held at the waist. The video was taken in a manner that was as unobtrusive as possible, which meant not engaging in conversation with the CNA or resident and videotaping from the best viewpoint while not interfering with care. At the subsequent observation times, the same type of caregiving task was videotaped for each dyad.
The videos at the NH1 site ranged from 30 s to 14.5 min (M = 6.14, SD = 4.6) and at the NH2 site videos ranged from 1 to 13.5 min (M = 5.65, SD = 3.3).

Coding Person-Centered Care

Two observational instruments were used to code the extent to which the CNA provided care in a person-centered way. The two instruments were developed by Lann-Wolcott and coworkers (2011) to measure specific behaviors and the qualities of interacting that typify person-centered care. The PCBI is a checklist of nine verbal behaviors, for example, “Shows interest,” and nine nonverbal items, for example, “Resident-directed eye gaze.” Prior research demonstrated good intercoder agreement: Cohen’s Kappa $\alpha = .8$ (Lann-Wolcott et al., 2011). The Global Behavioral Scale (GBS) consists of 11 items set up in semantic differential format. Sample items are “Put person before task” (1) versus “Put task before person” (7) and “Treating like worthy of relationship” (1) versus “Indifferent to connection or bond” (7). Prior research provides preliminary support for the predictive validity of the GBS (Lann-Wolcott et al., 2011).

Two coders were trained to use the PCBI and the GBS over an 8-week period using nice practice videos. The videos were randomized and coded by site after all the data had been collected from the site. Coders made judgments about whether each of the nine verbal and nonverbal behaviors included in the PCBI occurred during each 30-s interval. For behavioral coding purposes, it is common practice to unitize extended interactions into smaller time periods, depending on the episode (Foster & Cone, 1986). Given that the average episode was 5 min, it seemed reasonable and efficient to adopt 30-s intervals, as these promised to provide sufficient opportunity to determine the relative frequency of occurrence of each of the 18 behaviors being coded. The coders’ PCBI judgments were combined to indicate the proportion of the time CNAs engaged in person-centered behaviors. An intercoder agreement rate of $\alpha = .81$ was established in coding the behaviors of 23 CNAs over 55 video interactions (Cohen’s Kappa; Cohen, 1960).

After coding each caregiving interaction using the PCBI, coders used the GBS to make global judgments about the quality of each interaction. The Cronbach’s alpha coefficient for the GBS was $\alpha = .91$. The concurrent validity was acceptable: the correlation of the PCBI with the GBS in the present study was $r (51) = .37$, $p < .01$. Higher scores on the PCBI and GBS indicate more person-centered behaviors.

Relationship Measures

Residents’ relationship satisfaction with their paired CNA was measured by the Relationships with Staff Subscale of the Resident Satisfaction Index (RSI; Sikorska-Simmons, 2001). The subscale asks about staff’s kindness, behavior, dependability, friendliness, quality of assistance, abusive behavior, and responsiveness ($\alpha = .81$). Sample items included the following: “Is your CNA kind and caring?” “Do you think you have a dependable CNA taking care of you?” “Are you satisfied with the personal assistance you are receiving from your CNA?” The RSI is a 27-item survey, each item of which involves a 4-point Likert-type scale, which ranges from 0 (never) to 3 (always). The RSI includes five subscales, which measure the following: health care, housekeeping, physical environment, relationships with staff, and social life/activities. The overall alpha = .96. Sikorska-Simmons (2001) demonstrated validity by reporting the positive correlation of the RSI with the Affect Balance Scale, a measure of psychological well-being (Namazi, Eckert, Kahana, & Lyon, 1989). Higher scores on the subscale indicate a more satisfied relationship with the paired CNA.

CNA’s relationship satisfaction with their paired resident was measured by the “Personal Accomplishment” subscale of the Maslach Burnout Inventory (Maslach & Jackson, 1986). The subscale consists of eight items ($\alpha = .71$), each of which involves a 7-point scale, which ranges from 1 (strongly agree) to 7 (strongly disagree). The subscale has been normed with noncollege samples. Each of the eight items was reworded to apply to a specific resident. Sample items included the following: “I can easily understand how the resident feels about things,” “I can easily create a relaxed atmosphere with the resident,” and “I deal very effectively with the problems of the resident.” Although used generically with human service workers (Maslach, Schaufeli, & Leiter, 2001), these items have face validity for measuring the positive qualities of CNAs’ relationships with NH residents. Higher scores on the subscale indicate a more satisfied relationship with the paired resident.

Relationship closeness for both the CNAs and residents was measured using the Mutuality Scale, which was created by Archbold and colleagues.
(1990) and used by Lyons and colleagues (2007) to measure the closeness and reciprocity in family caregiving. Recently, Heliker and Nguyen (2010) conceptualized it as a more general measure of caregiver closeness in an intervention study involving both CNAs and NH residents. Heliker reported changes in the CNAs’ perceptions of closeness as a result of an intervention to promote relationships. In all of these studies, the Cronbach’s alpha was more than .9. The scale consists of 15 items, each with a 5-point scale, which ranges from 0 (not at all) to 4 (a great deal). Sample items include the following: “How close do you feel to him or her,” “How much do you like to sit and talk with him or her,” “To what extent do the two of you share the same values,” and “How much emotional support does he or she give you.” Higher scores on the Mutuality Scale indicate more relationship closeness.

**Results**

The study began with 12 CNA-resident pairs at both NH1 and NH2; however, due to attrition, the total number of dyads who completed the study was 11 at NH1 and 8 at NH2. Attrition was due to resident death (n = 2), CNA turnover (n = 1), and/or lack of treatment due to scheduling conflicts (n = 2). The participants’ demographic characteristics are displayed in Table 2, and the study flowchart can be seen in Figure 1.

It was hypothesized that the training program would increase the amount of person-centered

<table>
<thead>
<tr>
<th>Demographic of residents</th>
<th>NH1 (N = 12)</th>
<th>NH2 (N = 12)</th>
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<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>50% (n = 6)</td>
<td>16.7% (n = 2)</td>
</tr>
<tr>
<td>Female</td>
<td>50% (n = 6)</td>
<td>83.3% (n = 10)</td>
</tr>
<tr>
<td>Age M (SD)</td>
<td>82.6 (10.5)</td>
<td>86.3 (6.3)</td>
</tr>
<tr>
<td>Ethnicity</td>
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<tr>
<td>White</td>
<td>91.7%</td>
<td>100%</td>
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<tr>
<td>Asian</td>
<td>8.3%</td>
<td></td>
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<tr>
<td>Years at site M (SD)</td>
<td>5.1 (5.7)</td>
<td>1.9 (1.6)</td>
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<tr>
<td>Mental status exam M (SD)</td>
<td>25.1 (4.3)</td>
<td>27 (2.9)</td>
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<tr>
<td>Highest level of education</td>
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<tr>
<td>High school</td>
<td>16.7%</td>
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<tr>
<td>Some college</td>
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<td>Bachelor’s degree</td>
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<td>Graduate degree</td>
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<th>Demographics of the CNAs</th>
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<th>NH2 (N = 12)</th>
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<td>Male</td>
<td>33.3% (n = 4)</td>
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<tr>
<td>Female</td>
<td>66.7% (n = 8)</td>
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<tr>
<td>Age M (SD)</td>
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<td>30.8 (8.8)</td>
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<td>White</td>
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<td>First language learned</td>
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<td>Swahili</td>
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<td>Sign language</td>
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<td>Years of experience M (SD)</td>
<td>4.4 (5)</td>
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<td>Years at site M (SD)</td>
<td>2.8 (3.9)</td>
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<td>General Educational Development (GED)</td>
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<td>3 years of college</td>
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<td>4 years of college</td>
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Table 2. Resident and Certified Nursing Assistant (CNA) Demographics by Facility
care performed by the CNAs and would increase both the residents’ and CNAs’ satisfaction and closeness of the relationship. In order to check for equivalence before the training, a related-samples Wilcoxon signed ranks test was conducted on all of the measures to test for median differences between NH1 and NH2 at Time 1. No significant differences were found indicating that NH1 and NH2 were comparable prior to the training. A related-samples Wilcoxon signed ranks test was also conducted on all of the measures at Time 1 and Time 2 at the NH1 and the median differences between Time 2 and Time 3 at the NH2 to examine the effect of the training. Nonparametric statistics were used because assumptions of normality could not be met.

The strongest effect was the increase in resident-reported relationship closeness. As predicted, the residents’ mutuality ratings increased significantly after the training at both the NH1 (Time 1 vs. Time 2), \( z = -1.89, p < .05, d = .33 \), and the NH2 (Time 2 vs. Time 3), \( z = -1.95, p < .05, d = .43 \), indicating the residents’ perceptions of the relationship closeness with the CNAs increased after the training. As expected, no testing effect was seen in residents’ mutuality ratings between Time 1 and Time 2 at the wait-list control site, which was NH2, \( z = -2.55, p = .79 \). In terms of the CNAs’ mutuality ratings, they also increased significantly after the training at the NH1, \( z = -2.82, p < .05, d = .37 \); however, the increase between Time 2 and Time 3 at the NH2 was not significant. Given that both sites were equivalent in terms of feelings of closeness and relationship satisfaction at Time 1 and that the intervention had a positive impact on several of the outcome variables in NH1, significant differences would have been expected between the two sites at Time 2. Tables 3 and 4 show that the likely reason that there were no differences between sites at Time 2 was because at Time 1, aides and residents at the NH2 were feeling slightly more positive toward each other than were aides and residents at NH1. In this regard, the intervention made the NH1 and NH2 more equivalent at Time 2.

The results also indicated an effect for an increase in relationship satisfaction after the training for both the residents and the CNAs. The resident’s relationship satisfaction scores at the NH1 did not increase significantly; however, the scores at the NH2 did increase significantly between Time 2 and Time 3, \( z = -2.20, p < .05, d = .95 \). In terms of the CNAs, the increase in the relationship satisfaction scores approached significance at the NH1, \( z = -1.83, p = .06 \), but it was not significant at the NH2. Contrary to the hypothesis, CNAs’ scores on the PCBI and the GBS did not increase after training. The means and standard deviations are presented in Tables 3 and 4. The increase in relationship closeness residents experienced after the intervention, at both sites, was of practical and theoretical significance. For Kitwood (1997), being in relationship is an essential aspect of personhood and is at the core of his ideas about person-centered caregiving.

Discussion

This study demonstrated that a theory-driven person-centered training intervention for CNAs could be developed and feasibly implemented in NHs. The results, based on observational measures of caregiving interactions, as well as residents’ and aides’ responses to surveys, suggest that the intervention had a positive impact—especially on residents’ perceptions of closeness. Given the small scale of this Phase 1 pilot study and the multiple components of the intervention, where there is uncertainty about which components were active, a Phase 2 study would be a useful next step. In what follows the lessons learned are discussed.

Table 3. Group Means and Standard Deviations for the Certified Nursing Assistant’s Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Nursing home</th>
<th>Time 1</th>
<th>TX</th>
<th>Time 2</th>
<th>TX</th>
<th>Time 3</th>
<th>Min–Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person-centered Behavioral Inventory</td>
<td>NH1</td>
<td>0.36 (0.08)</td>
<td>TX</td>
<td>0.37 (0.08)</td>
<td>TX</td>
<td>0.36 (0.04)</td>
<td>0.21–0.50</td>
</tr>
<tr>
<td>Global Behavioral Scale</td>
<td>NH2</td>
<td>0.33 (0.08)</td>
<td>TX</td>
<td>0.35 (0.10)</td>
<td>TX</td>
<td>0.36 (0.04)</td>
<td>0.23–0.58</td>
</tr>
<tr>
<td>Satisfaction with resident</td>
<td>NH1</td>
<td>37.09 (7.84)</td>
<td>TX</td>
<td>40.64 (5.87)*</td>
<td>TX</td>
<td>41.89 (6.75)</td>
<td>22–48</td>
</tr>
<tr>
<td>Mutuality Scale</td>
<td>NH2</td>
<td>42.20 (6.55)</td>
<td>TX</td>
<td>40.80 (6.22)</td>
<td>TX</td>
<td>41.89 (6.75)</td>
<td>26–48</td>
</tr>
</tbody>
</table>

\*\( p = .06 \), \*\*\( p < .01 \).
Relevant issues include the need for more than two observational measures of caregiving behaviors, the possible interaction between the training intervention and the evaluation design, and the need to assess the immediate impact of the four 1-hr training sessions.

The logic of the design of the intervention was that it would increase the person centeredness of CNAs’ caregiving behaviors and that this, in turn, would have a positive impact on residents. As noted earlier, no changes in the CNAs’ caregiving behaviors were detected. It is possible that CNAs’ behaviors did change as a result of the training, but that change was not detected because too few caregiving behaviors were sampled. Only two 5-min behavior samples were taken 7 weeks apart. In the next phase of this research, at least two samples, on different days, per observation period should be considered for each dyad. The use of two samples at each observation time would capture variability that might occur due to unusual conditions on a given day. Additionally, increasing the length of interaction time to 10 min would ensure more opportunities for observation of the caregiving behaviors. The first 10 min of care has been established as a reliable representation of verbal and nonverbal behaviors in complete interactions (Caris-Verhallen et al., 1998).

Increased Feelings of Closeness

It is possible that residents’ feelings of increased closeness may have been due to changes in their CNAs’ behavior and to having answered questions twice about their feelings toward the CNA with whom they were paired. Even though no behavioral change was detected on the part of the CNAs, it is possible that aides increased certain person-centered behaviors as a result of the training—for example, made references to information presented in residents’ videotaped biographies. Residents may have come to think about their aides in more personalized ways because of such personalized references on the part of CNAs, in combination with having to answer questions twice about their feelings about their CNA. Prior to this study, residents may have viewed the CNAs only as paid service providers who assisted them with Activities of Daily Living (ADLs), but after the training, the residents may have been more likely to view the CNA they were paired with, for research design purposes, as a person with whom they could develop a relationship. However, this pairing alone could not account for the change in closeness because it did not occur in the absence of the training intervention at NH2 between Time 1 and Time 2. The wait-list control design made it possible to detect whether repeated observations—that is, in and of themselves—had an impact on resident/aide relationships, which they did not. The increase in closeness only occurred after the training intervention at both sites. It is possible that the resident/aide pairing interacted with the training, leading to a significant increase in residents’ feelings of closeness to their aide. In order to detect such an interaction in future, research residents might be asked repeatedly about their relationships with several aides, not simply the one aide who had been trained and with whom they had been paired based on the research design.

Measuring the Impact of the Four Training Sessions

In this study, the post measure was taken 6 weeks after the “pre” measure: that is, after 4 weeks of 1-hr training sessions and 2 weeks of supportive supervision. The design did not include measures of the immediate impact of any of the four 1-hr training sessions. Future research should include measures of the proximal outcomes of each session—for example, testing for aides’ increased knowledge of relationship-building behaviors. This would help to evaluate the plausibility of the logic model underlying this training intervention. Additionally, evaluating the immediate impact of the training could help to determine which elements of the intervention might have been the active components leading to change.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Nursing home</th>
<th>Time 1</th>
<th>TX</th>
<th>Time 2</th>
<th>TX</th>
<th>Time 3</th>
<th>Min–Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with Certified Nursing Assistants</td>
<td>NH1</td>
<td>18.90(2.80)</td>
<td>TX</td>
<td>19.80(2.52)</td>
<td>14–24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NH2</td>
<td>19.00(2.83)</td>
<td>TX</td>
<td>18.60(2.41)</td>
<td>14–24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutuality Scale</td>
<td>NH1</td>
<td>1.46(1.04)</td>
<td>TX</td>
<td>1.82(1.17)*</td>
<td>0–3.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NH2</td>
<td>1.82(0.82)</td>
<td>TX</td>
<td>1.86(0.77)</td>
<td>0.53–3.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.

Table 4. Means and Standard Deviations for the Resident’s Measures
Limitations and Future Research

This was a pilot study, and there were a number of limitations. Due to budget and time constraints, a small number of participants were included from two NHs. Having a larger sample would have increased the generalizability of the study. The next step in this research should be a Phase II study, involving a larger number of resident/aide dyads in a larger number of NHs. A preliminary Phase II study would make it possible to determine how to control for site differences, as well as assessing which outcomes are most sensitive to intervention change. Based on the moderate effect size reported here, a power analysis suggests that for a Phase III study there should be at least 80 resident/aide dyads per condition in order to achieve power of .8 (Lipsey, 1990).

In future work, the research design should include a 3-month follow-up data collection period to allow for the fact that it may take aides time to practice and stabilize a more person-centered approach to their caregiving. And it would also be useful to collect qualitative information from residents asking them about their interactions with aides at each data collection period: pre, post, and follow-up. Of interest, in terms of understanding, the impact of the training would be whether residents mentioned that aides talked with them about information they learned from watching their videotaped biography.

Other limitations include the selection processes by which residents and aides entered the study. Only the highest functioning residents were screened into the study: that is, residents with minimental scores of 20 or above. This group represented the top 40% of residents in both NHs. Additionally, 30% to 40% of residents in each home declined to participate for reasons of illness or lack of interest. And 30% to 40% of aides at both NHs chose not to participate for reasons related to scheduling conflicts, with several concerned about the confidentiality of videotapes. This limits the generalizability of the conclusions reached here in ways that need to be better understood. These limitations notwithstanding, the great majority of residents, CNAs, nurses, and administrators at both facilities were enthusiastic about the study. The study participants spontaneously expressed satisfaction. Such reactions suggest the feasibility of carrying out similar studies in other NHs.

Ensuring fidelity of training when an intervention is being administered at different sites is important. It is possible that, despite our best efforts, there was a difference between sites in the ways the training was implemented, which may have impacted differences in outcomes between the participating NHs. Future research should include a checklist to monitor the implementation of the training at different sites.

There were several demographic differences between the two sites. The residents at NH1 appear to have been better educated than the residents at NH2. The CNAs at NH2 appear to have been better educated than the CNAs at NH1. And, ethnically, CNAs at NH1 were more likely to have been Black or Hispanic/Latino. These differences may have had an impact on the findings here and similar differences between the residents and staffs of different NHs are likely to occur in future research. The possible impact of such differences on the ability of aides and residents to benefit from person-centered training interventions should be explored in future research.

Finally, it is possible that aides did not habituate to the video recording of their caregiving and that they behaved in unrepresentative ways—that is, they were on their best behavior. In the future, a warm-up period of video recording should be created to promote habituation. Aides might also have been influenced by social desirability concerns in answering questions about closeness and relationship satisfaction with residents. However, such concerns were likely minimized by the fact that the data were collected by an external evaluator and were not shared with the NH supervisory staff or administrators.

Implications

Many of the components of the intervention are innovative and have the potential to change practice if their efficacy can be demonstrated. Creating brief videotaped biographies of residents is an innovative way of making personal information about residents available to CNAs. Creating videotapes of CNA/resident caregiving interactions and using them, in conjunction with behavioral observation instruments, is an innovative way to promote CNAs’ self-awareness of the person centeredness of their caregiving behaviors. Also innovative is teaching CNAs about relationship processes such as interdependence, trust, and reciprocity as a way to promote person-centered caregiving.

Although the training appears to have had an impact on residents, and to a lesser extent on aides,
the mechanism of this impact is unclear. Future research involving a Phase II study should help resolve these issues. The contribution of this study was that it demonstrated that it is feasible to create and implement a person-centered care intervention, which is theoretically based.

Acknowledgments

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