

PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is a publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/208057>

Please be advised that this information was generated on 2020-11-28 and may be subject to change.



Relationship of care staff attitudes with social well-being and challenging behavior of nursing home residents with dementia: a cross sectional study

D. L. Gerritsen, A. P. A. van Beek & R. T. Woods

To cite this article: D. L. Gerritsen, A. P. A. van Beek & R. T. Woods (2019) Relationship of care staff attitudes with social well-being and challenging behavior of nursing home residents with dementia: a cross sectional study, *Aging & Mental Health*, 23:11, 1517-1523, DOI: [10.1080/13607863.2018.1506737](https://doi.org/10.1080/13607863.2018.1506737)

To link to this article: <https://doi.org/10.1080/13607863.2018.1506737>



© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 08 Nov 2018.



[Submit your article to this journal](#)



Article views: 1970



[View related articles](#)



[View Crossmark data](#)



Citing articles: 1 [View citing articles](#)

Relationship of care staff attitudes with social well-being and challenging behavior of nursing home residents with dementia: a cross sectional study

D. L. Gerritsen^a, A. P. A. van Beek^b and R. T. Woods^c

^aDepartment of Primary and Community Care, Radboud Institute for Health Sciences, Radboudumc Alzheimer Centre, Radboud University Medical Centre, Nijmegen, the Netherlands; ^bNIVEL, Netherlands Institute for Health Services Research, Utrecht, the Netherlands; ^cDementia Services Development Centre Wales, Bangor University, Bangor, UK

ABSTRACT

Objectives: This study investigates the relationship between attitudes of care staff and social well-being and challenging behavior of residents in long-term dementia care.

Methods: The study was based on a cross-sectional design using questionnaires. Care staff members (N = 291) of 15 long-term care facilities in the Netherlands completed the Approaches to Dementia Questionnaire. Additionally, the primary professional caregiver of each participating resident (N = 239) completed an observational questionnaire regarding that resident's behavior, which contained the scale for Social Wellbeing Of Nursing home residents and the Cohen-Mansfield Agitation Inventory. Data were analyzed using multilevel analyses, taking characteristics of residents into account.

Results: Attitudes of care staff towards residents with dementia differed between facilities. Further, residents experienced more social well-being and displayed less challenging behavior in facilities where care staff had more hopeful attitudes.

Conclusion: This study demonstrates a relationship between attitudes of care staff and resident well-being. The results indicate that it is important to address attitudes towards residents with dementia in the education of (future) care staff. Care processes may also be improved by focusing on the attitudes of care staff. In this way, the well-being of residents with dementia can potentially be improved as well.

ARTICLE HISTORY

Received 21 December 2017
Accepted 23 July 2018

KEYWORDS

Dementia; nursing staff; attitudes; social well-being; challenging behavior

Introduction

Providing care for people with dementia can be challenging and sometimes a source of strain for staff in long-term care settings such as nursing homes (Edberg et al., 2008). There are many competing demands to balance in trying to ensure a good quality of life for residents, and staff may be challenged by behavior that is unpredictable and difficult to understand. To ensure high quality of care and well-being for people with dementia, a positive attitude that focuses on an individual's abilities is thought to be essential (Alfredson & Annerstedt, 1994; Kada, Nygaard, Mukesh, & Geitung, 2009). However, this expectation has not yet been confirmed.

The literature on attitudes of nursing staff in dementia care is limited. Several years ago, Brodaty *et al.* found that nurses and nurse aides predominantly had negative perceptions of individuals with dementia (Brodaty, Draper, & Low, 2003), although Norbergh *et al.* found more positive attitudes (Norbergh, Helin, Dahl, Hellzen, & Asplund, 2006). More recently, effects of person centered care approaches have been shown to increase person-centeredness (e.g. Barbosa, Nolan, Sousa, & Figueiredo, 2017; Edvardsson, Sandman, & Borell, 2014; Larocque et al., 2014) and person-centered attitudes have been found to influence person-centered dementia care (Hunter, Hadjistavropoulos, Thorpe, Lix, & Malloy, 2016).

Interestingly, how care staff rate the quality of life of residents with dementia may be influenced by their attitudes about dementia (Winzelberg, Williams, Preisser, Zimmerman, & Sloane, 2005) and their levels of burnout and satisfaction with life (Graske, Meyer, & Wolf-Ostermann, 2014). Additionally, attitudes of care staff have been found to be associated with better recognition of cognitive impairment (Macdonald & Woods, 2005). A few indications have been found that hopeful attitudes of care staff are associated with higher resident quality of life as rated by staff (Spector & Orrell, 2006; Zimmerman, et al., 2005). Furthermore, challenging behavior of residents was found to be more likely to occur after task oriented caregiver actions than person-centered actions (Gilmore-Bykovskiy, Roberts, Bowers, & Brown, 2015). Yet, relationships between attitudes of nursing staff, quality of care and resident well-being have barely been studied. This is an interesting area of investigation as a growing body of literature indicates that a resident's well-being is closely related to the quality of his or her relationship with care providers (Custers, Westerhof, Kuin, & Riksen-Walraven, 2010; McGilton, Sidani, Boscart, Guruge, & Brown, 2012; Nakanishi, Hirooka, Morimoto, & Nishida, 2017; Willemse et al., 2014). For example, a care provider's positive behavior may contribute to a decrease in behavioral symptoms in residents with dementia (van Weert, van Dulmen, Spreeuwenberg, Ribbe,

CONTACT Debby Lydia Gerritsen  Debby.Gerritsen@radboudumc.nl  Department of Primary and Community Care, Radboud Alzheimer Centre, Radboud University Medical Centre, PO BOX 9101, 117 ELG, 6500 HB Nijmegen, The Netherlands

© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

& Bensing, 2005), and effective relational behavior or behavior that focuses on resident abilities can enhance resident well-being (Brooker, 2005; McGilton et al., 2012; Norbergh et al., 2006; Verkaik et al., 2011).

This paper investigates nursing staff attitudes towards residents with dementia in long-term care facilities, and the relationship between these attitudes and resident well-being, more particularly social well-being and challenging behavior of residents. The research questions are:

- (1) What are the attitudes of nursing staff regarding residents with dementia?
- (2) Are nursing staff attitudes related to resident social well-being and challenging behavior?

Methods

Design, participants and ethics

Data were collected using questionnaires in a cross-sectional design in 15 long-term care facilities (nursing- and residential homes) in the Netherlands. These facilities provide multi-disciplinary care for older people with chronic health problems (Koopmans, Lavrijsen, & Hoek, 2013). Care staff working in these facilities are an educationally diverse group of specialized registered nurses, recreational therapists, certified nursing assistants (CNAs), and assistants without healthcare education.

All 15 facilities were about to start innovative small-scale projects to improve dementia care and data were collected as part of an evaluation of these projects in 2008–2009 (Van Beek, Spreeuwenberg, & Groenewegen, 2009). Although all projects aimed at increasing care staff's attention for residents with dementia, the outline and size of the projects varied greatly. For instance, the number of residents in projects varied between 15–260 residents (see Table 1). In smaller projects all care staff were asked to participate in the study, in larger projects the local project supervisor selected a dementia unit. Care staff involved in the projects were asked by the local project supervisor to complete a questionnaire. Additionally, the primary professional caregiver of participating residents was asked to complete an observation-list on the resident's behavior, together with a colleague. Respondents could send the completed questionnaire to the research team by freepost. No data was collected directly from residents and there were no exclusion criteria for residents or staff. Written informed consent was asked of residents' legal representatives accompanied by a letter explaining the study. Participation was limited to residents for whom written informed consent was provided. The study was undertaken in accordance with the declaration of Helsinki, the Conduct Health Research (www.federa.org/gedragscodes-codes-en) and the applicable rules concerning the review of research ethics committees and informed consent in the Netherlands.

Outcome measurements

Attitudes towards Dementia: The Approaches to Dementia Questionnaire (ADQ) (Lintern, Woods, & Phair, 2000) includes 19 items, each scored from 1 (strongly disagree) to 5 (strongly agree). They are summed into a total score

(range 19–95), a 'Hope' subscale (8 items, range 8–40) and a 'Person-centered' subscale (11 items, range 11–55). Higher scores indicate more positive attitudes, some (negative) items need to be recoded. 'Hope' addresses the degree of hope for individuals with dementia, 'Person-centeredness' regards the degree to which respondents endorse person-centered care as opposed to considering that all residents with dementia have the same strengths and limitations. Internal consistency (Cronbach's alpha) in our sample was 0.73 for the total ADQ; 0.72 for Hope; and 0.74 for Person-centeredness, respectively. The ADQ was translated into Dutch by the researchers and the translation was validated through back-translation by a professional English corrector.

Social Well-being: The Social Well-being of Nursing home residents (SWON) scale is a 9-item observational measure completed by nursing staff assessing the social behavior of the resident towards others as well as the behavior of others towards the resident (Gerritsen, Steverink, Frijters, Ooms, & Ribbe, 2010). Based on Social Production Functions theory (Steverink & Lindenberg, 2006) it has separate sub-scales (three items each) for the theory's three social well-being needs. Cronbach's alpha of the total SWON-score in the current study was 0.74.

Challenging behavior: The Cohen-Mansfield Agitation Inventory (CMAI) (Cohen-Mansfield, Marx, & Rosenthal, 1989) is the most widely used assessment scale for agitation and aggressive behavior of residents in long-term care. It consists of 29 items with a 7-point frequency scale ('never' to 'several times an hour'). The CMAI has shown test-retest and inter-rater reliability and concurrent validity in nursing home residents (Miller, Snowdon, & Vaughan, 1995) and is often used in long term care research (Veldwijk-Rouwenhorst et al., 2017). Internal consistency (Cronbach's alpha) of CMAI in the current study was 0.85.

Characteristics of residents: Several resident characteristics that may influence social well-being and challenging behavior were studied: age, sex, length of stay, and cognitive and physical functioning. Cognitive functioning was measured using the Cognitive Performance Scale (CPS) of the Resident Assessment Instrument (RAI), a five-item observational scale with a total score ranging from 0 (intact) to 6 (very severe impairment) (Morris et al., 1994). Problems in physical functioning were measured using the ADL (Activities of Daily Living) hierarchy index of RAI, with a score ranging from "independent" (0) to "totally dependent on others" (6) (Morris, Fries, & Morris, 1999).

Statistical analyses

Differences between facilities were analyzed using Kruskal Wallis Tests. To study the relationship between care staff attitudes and the social well-being and challenging behavior of residents, a multilevel analysis (Leyland & Groenewegen, 2003; Snijders, 1999) was performed in MLwiN. A random intercept multilevel, multi-response model was used, which enabled studying social well-being and challenging behavior of residents as dependent variables separately, while taking into account a possible relationship between these outcomes (van Beek, Frijters, Wagner, Groenewegen, & Ribbe, 2011). The model consisted of three levels: facilities (level 3), individual residents

Table 1. Type of care setting, number of residents and staff in the participating projects, and number of residents and staff in this study.

	Type of care setting	Type of unit	Number of Residents participating in Project	Number of Staff participating in Project	Number of Residents participating in Study	Number of Staff participating in Study	Disciplines of staff participating in study (number)
1	Residential home	Psychogeriatric unit	25	15	7 (11)*	15 (15)	Nursing staff (13) Recreational therapists (2)
2	Nursing home	Group-project Psychogeriatric unit	260	44	12 (?)**	14 (40)	Recreational therapists (14)
3	Residential home	Daycare No specific unit, residents with dementia living in the facility	85	75	12 (13)	24 (25)	Nursing staff (8) Nursing assistants (5) Trainees (7) Recreational therapists (3) Psychosocial therapists (1)
4	Residential home	Group-project	16	18	7 (7)	11 (18)	Nursing staff (7) Nursing assistants (4)
5	Nursing home	Psychogeriatric unit	Residents of 12 units	176	11 (17)	10 (20)	Nursing staff (4) Nursing assistants (5) Trainee (1)
6	Nursing home	Psychogeriatric unit	64	90	48 (64)	32 (50)	Nursing staff (27) Nursing assistants (5)
7	Residential home	Psychogeriatric unit	30	20	15 (30)	20 (20)	Nursing staff (19) Recreational therapists (1)
8	Nursing home	No specific unit, residents with dementia living in the facility	40	30	30 (40)	19 (30)	Nursing staff (6) Nursing assistants (5) Recreational therapists (6) (Trainee) Occupational/ Psychosocial therapists (2)
9	Nursing home	Psychogeriatric unit	42	60	22 (28)	43 (60)	Nursing staff (32) Nursing assistants (9) Trainees (2)
10	Residential home	Psychogeriatric unit	18	25	12 (18)	5 (25)	Nursing staff (4) Nursing assistants (1)
11	Nursing home	Psychogeriatric unit Group-project	42	35	15 (42)	27 (35)	Nursing staff (17) Nursing assistants (9) Psychosocial therapists (1)
12	Nursing home	Psychogeriatric unit	25	22	16 (25)	12 (22)	Nursing staff (4) Nursing assistants (4) Trainees (4)
13	Residential home	No specific unit, residents with dementia living in the facility	12	5	12 (12)	4 (5)	Recreational therapists (4)
14	Nursing home	Psychogeriatric unit	30	26	15 (30)	5 (26)	Nursing staff (4) Nursing assistants (1)
15	Residential home	Psychogeriatric unit	96	80	5 (30)	50 (60)	Nursing staff (23) Nursing assistants (22) Trainees (5)

*Number of completed questionnaires received; number distributed between brackets.

**Number of distributed questionnaires not registered.

within the facility (level 2) and the relationship between social well-being and challenging behavior within individual residents (level 1).

First, the relationship between social well-being and challenging behavior was explored (Model 1, or Empty Model). Second, this relationship was studied controlling for resident characteristics by entering age, sex, length of stay, cognitive and physical functioning into the model on

resident-level (Model 2). Third, the relationship between attitudes of care staff, and social well-being and challenging behavior of residents was investigated by entering the two ADQ-subcales one by one into the analyses on facility-level (Model 3).

In total, there were 14 missing values of residents for the challenging behavior scale. For the scale on social well-being, there were 7 missing values of residents.

Results

Table 1 shows characteristics of the 15 facilities, and the number of respondents per facility. A total of 291 staff members (of 451, 65%) completed the questionnaire. Most care staff were female (94%), with a mean age of 43 years (sd = 10.84). Staff members worked 26 hours per week on average (sd = 7.28). All levels of staff were represented by the respondents in this study (see also Table 1).

Additionally, data were collected for 239 residents for whom informed consent was given. This was 60% of the 400 residents for whom consent letters were distributed among legal representatives. Their mean age was 83 years (sd = 8.10); 74% were female. Length of stay was more than one year for the majority of residents (68%) at the time of data-collection; for 21% of the residents it was less than six months. The mean CPS-score was 4.0 (sd = 1.56), indicating moderate problems in cognition. The mean ADL-score was 3.5 (sd = 1.63), indicating a dependency on others for activities of daily living.

Attitudes of care staff towards dementia (ADQ)

Table 2 shows the ADQ results for the 15 facilities. Mean scores for hope and person-centeredness were 24.0, (sd = 4.76) and 45.6 (sd = 4.56) respectively for the total sample, and 69.6 (sd = 6.92) for total ADQ. The mean scores varied significantly between facilities ($p < 0.05$; Kruskal-Wallis test).

Relationship between attitudes of care staff and well-being of residents

The mean score for social well-being (SWON) was 10.5 (range: 1–18), for challenging behavior (CMAI) it was 51.3 (range: 29–112). Table 3 presents the results of the multi-level analysis. Social well-being and challenging behavior varied significantly between residents. There was also a significant difference between facilities in the social well-being and challenging behavior of residents (see variance component of 'residents' and 'facilities' for both outcomes in Model 1, Table 3). Social well-being and challenging behavior were negatively related on the level of the facilities (correlation multilevel analyses -0.92): in facilities where residents experienced less social well-being, residents displayed more challenging behavior. On the level of the residents, the correlations between these outcomes were less strong (correlation multilevel analyses -0.30), but had the same direction. Of the variance 26% (social well-being) and 10% (challenging behavior) could be ascribed to differences on the level of the facilities (see ICC in Model 1, Table 3).

Model 2 addresses whether differences in social well-being and challenging behavior were due to differences in resident-characteristics (Model 2, Table 3). Higher age of residents, shorter length of stay (<2 years), and less problems in cognitive functioning ($p < 0.05$) were positively related to social well-being. Also, residents with more problems in physical functioning showed less challenging behavior ($p < 0.05$); residents with more cognitive problems showed more challenging behavior ($p < 0.05$). When resident characteristics were added to the model,

Table 2. Average scores on the ADQ subscales and total scale for nursing staff of 15 long-term care facilities in the Netherlands (N = 291).

	Hope (8–40) N = 274	Person centered (11–55) N = 285	Total ADQ (19–95) N = 270
1	23.0 (sd = 4.69)	45.7 (sd = 3.53)	68.6 (sd = 5.26)
2	25.7 (sd = 3.28)	48.3 (sd = 3.97)	74.2 (sd = 5.13)
3	24.0 (sd = 4.74)	47.1 (sd = 3.33)	71.1 (sd = 4.90)
4	25.1 (sd = 3.36)	42.5 (sd = 5.01)	67.5 (sd = 6.17)
5	24.4 (sd = 3.13)	44.0 (sd = 4.74)	69.0 (sd = 6.65)
6	24.9 (sd = 4.47)	48.0 (sd = 4.60)	72.6 (sd = 6.81)
7	23.9 (sd = 1.83)	46.0 (sd = 3.85)	69.8 (sd = 3.47)
8	23.9 (sd = 5.00)	44.7 (sd = 3.50)	68.6 (sd = 7.04)
9	26.4 (sd = 3.76)	45.3 (sd = 4.24)	71.7 (sd = 6.34)
10	24.8 (sd = 4.11)	45.6 (sd = 5.94)	69.3 (sd = 8.22)
11	23.3 (sd = 6.07)	45.7 (sd = 4.50)	69.0 (sd = 9.12)
12	23.8 (sd = 4.53)	43.7 (sd = 9.42)	67.7 (sd = 9.78)
13	25.0 (sd = 2.80)	44.3 (sd = 2.22)	69.3 (sd = 3.30)
14	24.2 (sd = 3.35)	46.0 (sd = 2.92)	70.2 (sd = 5.45)
15	20.8 (sd = 5.53)	44.4 (sd = 3.78)	65.7 (sd = 6.86)
Mean	24.0 (sd = 4.76)	45.6 (sd = 4.56)	69.6 (sd = 6.92)

ADQ: Approaches to Dementia Questionnaire.
sd: standard deviation.

differences between individual residents in social well-being and challenging behavior remained significant (see variance components Model 2, Table 3). Furthermore, the correlation between both outcomes remained high on the level of the facilities (–0.90) and decreased slightly on the level of residents (–0.26).

Finally, the attitudes of care staff were entered into the analysis. The subscales 'Hope' and 'Person-centeredness' were added separately, while taking into account resident characteristics. When care staff had a more hopeful attitude towards residents with dementia, residents displayed higher social well-being and less challenging behavior ($p < 0.05$, Model 3, Table 3). These effects were not found for 'Person-centeredness'. By adding 'Hope' to the model, significant differences between facilities in challenging behavior disappeared. In addition, the variance that could be ascribed to differences between facilities decreased: ICC for facilities was reduced to 17% and 6% for social well-being and challenging behavior respectively. Correlation between both outcomes remained high on the level of the facilities (–0.85) and lower on the level of residents (–0.26).

Discussion

Attitudes of care staff differed between facilities, with higher average scores on person-centeredness items than on items evaluating hopeful attitudes. Furthermore, we found that when staff had a more hopeful attitude towards residents with dementia, residents experienced higher social well-being and displayed less challenging behavior.

Higher scores on person-centeredness than on hope have been found before, which also holds for person-centered scores being quite high (Kada et al., 2009; Macdonald & Woods, 2005; Zimmerman, et al., 2005). Some of these items may suffer from social desirability bias. The items 'Persons with dementia have, just like others, the need to feel respected,' 'People with dementia are more likely to be contented when treated with understanding and reassurance' and, 'It is important to respond with understanding and empathy towards persons with dementia,' had a very high percentage of 'strongly agree' answers/low percentage of 'strongly disagree' answers (64%, 48% and 47% respectively for strongly agree and 0.3%, 0.9% and

Table 3. Results of the multilevel multi-response analyses for attitudes of nursing staff (N = 291) and social well-being and challenging behavior of residents (N = 239) in 15 long-term care facilities.

	Model 1		Model 2		Model 3	
	Social well-being (1–18) B (SE)	Challenging behavior (29–112) B (SE)	Social well-being (1–18) B (SE)	Challenging behavior (29–112) B (SE)	Social well-being (1–18) B (SE)	Challenging behavior (29–112) B (SE)
Intercept	10.735 (0.678)	50.916 (1.876)	10.518 (0.831)	52.063 (3.279)	10.656 (0.774)	51.796 (3.056)
Characteristics of residents						
Age			0.072 (0.032)	–0.095 (0.141)	0.071 (0.032)	–0.089 (0.139)
Female (ref: male)			0.892 (0.554)	0.021 (2.539)	0.890 (0.554)	–0.037 (2.535)
LOS: 6–12 months*			0.671 (0.877)	–4.837 (3.909)	0.633 (0.873)	–4.604 (3.861)
LOS: 1–2 years*			–0.403 (0.749)	–1.740 (3.310)	–0.377 (0.745)	–1.842 (3.72)
LOS: > 2 years*			–1.388(0.695)	–2.106(3.092)	–1.318(0.691)	–2.501(3.054)
Problems in ADL functioning			–0.102 (0.200)	–2.387 (0.882)	–0.120 (0.199)	–2.227 (0.868)
Problems in cognitive performance			–1.152 (0.192)	3.658 (0.859)	–1.135 (0.192)	3.529 (0.858)
Hope attitude					0.998(0.416)	–3.844 (1.369)
Variance components Facilities	5.621 (2.511) p = 0.013	32.689 (18.935) p = 0.042	3.844 (1.747) p = 0.014	32.774 (18.473) p = 0.038	2.484 (1.244) p = 0.023	14.856 (11.555) P = 0.099
Residents	15.971 (1.509) p = 0.000	281.185 (26.484) p = 0.000	12.066 (1.139) p = 0.000	254.993 (24.028) p = 0.000	12.061 (1.139) p = 0.000	254.603 (23.959) p = 0.000
Correlation between outcomes for facilities		–0.92		–0.90		–0.85
Correlation between outcomes for residents		–0.30		–0.26		–0.26
ICC facilities	26%	10%	24%	11%	17%	6%

Note: statistical significance ($p \leq 0.05$) shown in bold type; SE = standard error; ICC = Intra Class Correlation.

0,6% for strongly disagree). Alternatively, as has been suggested earlier, care staff may have become more person-centered over the years (Willemse et al., 2015). Indeed, the mean percentage of 'strongly agree' and 'strongly disagree' answers on the Hope items was 9.99% and 8.85% respectively, whereas those of the person-centeredness items were 36.08% and 1.42%. Further research could focus on improving the person-centered items.

Our findings suggest that attitudes towards dementia are not only important for outcomes for care staff, but that attitudes towards dementia are also relevant for resident outcomes, which confirms earlier findings (Gilmore-Bykovskiy et al., 2015; Zimmerman, et al., 2005). This finding is important for care approaches that aim to improve interactions between nurses and residents, such as person-centered care (Brooker, 2005; Kitwood, 1998; Willemse et al., 2014), relationship-centered care (Nolan, Davies, Brown, Keady, & Nolan, 2004), and emotion-oriented care (Finnema et al., 2005; Finnema, Droes, Ribbe, & Van Tilburg, 2000). It implies that interventions should not solely focus on the behavior of care staff, but also on the attitudes that underlie this behavior. Moreover, apart from consequences for specific interventions, the current study underlines the importance of focusing on the attitudes towards people with dementia in the education and training of care staff in long-term care settings.

This study has some limitations. First, a cross-sectional design with 15 facilities was used. As a result, the power of the multilevel analyses was restricted to 15 facilities at the highest level, meaning that both attitude-subscales could not be entered simultaneously into the model. However, even in 15 facilities, significant differences in attitudes of care staff and outcomes of residents were found. Furthermore, by using a cross-sectional design, no causal relationship between attitudes of care staff and outcomes of residents could be established. It may be that well-being

and behavior of residents influence the attitudes of care staff, an issue that can only be investigated in a longitudinal study. Indeed, the relationship between attitudes and behavior has been studied for decades, and the theoretical approaches regarding the relationship between them within a person (i.e. attitudes of care staff influence their behavior) result from the understanding that attitudes and behavioral intentions do not always lead to actual behavior (Ajzen, 1991, 2011). Therefore, longitudinal study of the relationship between attitudes of care staff, their behavior and also the behavior and well-being of residents would be highly relevant. Such research should incorporate dependent as well as independent raters (research staff) of resident outcomes, since the results may be influenced if the staff of whom the attitudes are measured are also the raters of the residents' behavior. In the current study, about 15% of the care staff respondents also filled in the observation-list for residents. Staff with more hopeful attitudes might indeed be inclined to rate social well-being of residents more positively, being more attuned to positive characteristics of the residents.

Second, all of the participating facilities were about to start a project to improve dementia care. It is possible that care staff were more aware of their attitudes towards residents as a result of this, which may influence the generalizability of the results. Yet, as all of the facilities were about to begin with the projects and had not actually started, we expect this effect to be limited. Our convenience sample may also have resulted in an atypical selection of residents. However, the sex, age and CMAI-scores are comparable to that of a representative sample of Dutch nursing home residents with dementia (N = 2074) (Veldwijk-Rouwenhorst et al., 2017). Furthermore, the care staff characteristics were highly similar to those in a recent study using a representative sample of Dutch care staff (N = 1093) (Willemse et al., 2015).

Third, care staff attitudes may relate to their (demographic) characteristics. For instance, higher education level, younger age, more work experience (Kada et al., 2009) -but also less work experience (Lee, Hui, Kng, & Auyeung, 2013; Zimmerman, et al., 2005) -, job satisfaction (Brodaty et al., 2003; Willemse et al., 2015), and self-confidence or personal accomplishment (Travers, Beattie, Martin-Khan, & Fielding, 2013; Willemse et al., 2015) have been found to be associated with more hopeful or positive attitudes among care staff. These aspects were not addressed in this study, but should be in further research.

Fourth, we found a very high negative correlation (>0.85) between social well-being and challenging behavior of residents on the level of the facilities. It is unclear how this may be explained, as both outcomes were measured with two separate validated scales. Possibly, the overlap has to do with scoring patterns of care staff within facilities. Therefore, we looked more closely at the correlations between both outcomes within facilities. Indeed, correlations between outcomes vary considerably between facilities (between -0.03 to -0.84 based on Pearson correlations), indicating that care staff scored differently in the participating facilities. Yet, the overlap in outcomes may also represent actual co-occurrence of high levels of challenging behavior and low social well-being in certain facilities. Further research studying the overlap between both outcomes is necessary. The higher correlation at the facility level rather than the resident level might indicate that residents who do not have high levels of challenging behavior themselves, may have their social well-being reduced by living alongside those who do.

Conclusion

In conclusion, this study demonstrates a relationship between attitudes of care staff and resident well-being. Although longitudinal investigation of causality is necessary, the results already have important implications for care staff. First, it is important to address the attitudes towards residents with dementia in the education of (future) care staff, especially the attitudes regarding hope. Furthermore, the results indicate that care processes may be improved by focusing on the attitudes of care staff, with important benefits for the well-being of residents with dementia.

Acknowledgements

The authors would like to thank Peter Spreeuwenberg of the Netherlands Institute of health services research for his help with the multilevel analyses.

Funding

This study was supported by the Dutch 'Innovatiefonds Zorgverzekeraars' [no grant number]

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. doi: [10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health*, 26(9), 1113–1127. doi: [10.1080/08870446.2011.613995](https://doi.org/10.1080/08870446.2011.613995)
- Alfredson, B. B., & Annerstedt, L. (1994). Staff attitudes and job satisfaction in the care of demented elderly people: group living compared with long-term care institutions. *Journal of Advanced Nursing*, 20(5), 964–974.
- Barbosa, A., Nolan, M., Sousa, L., & Figueiredo, D. (2017). Person-centredness in direct care workers caring for residents with dementia: Effects of a psycho-educational intervention. *Dementia (London)*, 16(2), 192–203. doi: [10.1177/1471301215585667](https://doi.org/10.1177/1471301215585667)
- Brodaty, H., Draper, B., & Low, L. F. (2003). Nursing home staff attitudes towards residents with dementia: Strain and satisfaction with work. *Journal of Advanced Nursing*, 44(6), 583–590.
- Brooker, D. (2005). Dementia care mapping: A review of the research literature. *The Gerontologist*, 1(1), 11–18.
- Cohen-Mansfield, J., Marx, M. S., & Rosenthal, A. S. (1989). A description of agitation in a nursing home. *Journal of Gerontology*, 44(3), M77–M84.
- Custers, A. F., Westerhof, G. J., Kuin, Y., & Riksen-Walraven, M. (2010). Need fulfillment in caring relationships: Its relation with well-being of residents in somatic nursing homes. *Aging Ment Health*, 14(6), 731–739. doi: [10.1080/13607861003713133](https://doi.org/10.1080/13607861003713133)
- Edberg, A. K., Bird, M., Richards, D. A., Woods, R., Keeley, P., & Davis-Quarrell, V. (2008). Strain in nursing care of people with dementia: Nurses' experience in Australia, Sweden and United Kingdom. *Aging Ment Health*, 12(2), 236–243. doi: [10.1080/13607860701616374](https://doi.org/10.1080/13607860701616374)
- Edvardsson, D., Sandman, P. O., & Borell, L. (2014). Implementing national guidelines for person-centered care of people with dementia in residential aged care: Effects on perceived person-centeredness, staff strain, and stress of conscience. *International Psychogeriatrics*, 26(07), 1171–1179. doi: [10.1017/S1041610214000258](https://doi.org/10.1017/S1041610214000258)
- Finnema, E., Drees, R. M., Ettema, T., Ooms, M., Ader, H., Ribbe, M., & van Tilburg, W. (2005). The effect of integrated emotion-oriented care versus usual care on elderly persons with dementia in the nursing home and on nursing assistants: A randomized clinical trial. *International Journal of Geriatric Psychiatry*, 20(4), 330–343. doi: [10.1002/gps.1286](https://doi.org/10.1002/gps.1286)
- Finnema, E., Drees, R. M., Ribbe, M., & Van Tilburg, W. (2000). The effects of emotion-oriented approaches in the care for persons suffering from dementia: A review of the literature. *International Journal of Geriatric Psychiatry*, 15(2), 141–161.
- Gerritsen, D. L., Steverink, N., Frijters, D. H., Ooms, M. E., & Ribbe, M. W. (2010). Social well-being and its measurement in the nursing home, the SWON-scale. *Journal of Clinical Nursing*, 19(9-10), 1243–1251. doi: [10.1111/j.1365-2702.2009.03169.x](https://doi.org/10.1111/j.1365-2702.2009.03169.x)
- Gilmore-Bykovskiy, A. L., Roberts, T. J., Bowers, B. J., & Brown, R. L. (2015). Caregiver person-centeredness and behavioral symptoms in nursing home residents with dementia: A timed-event sequential Analysis. *The Gerontologist*, 55(Suppl 1), S61–S66. doi: [10.1093/geront/gnu164](https://doi.org/10.1093/geront/gnu164)
- Graske, J., Meyer, S., & Wolf-Ostermann, K. (2014). Quality of life ratings in dementia care—A cross-sectional study to identify factors associated with proxy-ratings. *Health and Quality of Life Outcomes*, 12(1), 177. doi: [10.1186/s12955-014-0177-1](https://doi.org/10.1186/s12955-014-0177-1)
- Hunter, P. V., Hadjistavropoulos, T., Thorpe, L., Lix, L. M., & Malloy, D. C. (2016). The influence of individual and organizational factors on person-centred dementia care. *Aging Ment Health*, 20(7), 700–708. doi: [10.1080/13607863.2015.1056771](https://doi.org/10.1080/13607863.2015.1056771)
- Kada, S., Nygaard, H. A., Mukesh, B. N., & Geitung, J. T. (2009). Staff attitudes towards institutionalised dementia residents. *Journal of Clinical Nursing*, 18(16), 2383–2392. doi: [10.1111/j.1365-2702.2009.02791.x](https://doi.org/10.1111/j.1365-2702.2009.02791.x)
- Kitwood, T. (1998). Toward a theory of dementia care: Ethics and interaction. *The Journal of Clinical Ethics*, 9(1), 23–34.
- Koopmans, R. T., Lavrijsen, J. C., & Hoek, F. (2013). Concrete steps toward academic medicine in long term care. *Journal of the American Medical Directors Association*, 14(11), 781–783. doi: [10.1016/j.jamda.2013.08.004](https://doi.org/10.1016/j.jamda.2013.08.004)

- Larocque, N., Schotsman, C., Kaasalainen, S., Crawshaw, D., McAiney, C., & Brazil, E. (2014). Using a book chat to improve attitudes and perceptions of long-term care staff about dementia. *Journal of Gerontological Nursing, 40*(5), 46–52. doi: [10.3928/00989134-20140110-02](https://doi.org/10.3928/00989134-20140110-02)
- Lee, J., Hui, E., Kng, C., & Auyeung, T. W. (2013). Attitudes of long-term care staff toward dementia and their related factors. *International Psychogeriatrics, 25*(01), 140–147. doi: [10.1017/S1041610212001512](https://doi.org/10.1017/S1041610212001512)
- Leyland, A. H., & Groenewegen, P. P. (2003). Multilevel modelling and public health policy. *Scandinavian Journal of Public Health, 31*(4), 267–274.
- Lintern, T., Woods, B., & Phair, L. (2000). Before and after training: A case study of interventions. *Journal of Dementia Care, 8*(1), 15–17.
- Macdonald, A. J., & Woods, R. T. (2005). Attitudes to dementia and dementia care held by nursing staff in U.K. “non-EMI” care homes: what difference do they make?. *International Psychogeriatrics, 17*(3), 383–391.
- McGilton, K. S., Sidani, S., Boscart, V. M., Guruge, S., & Brown, M. (2012). The relationship between care providers’ relational behaviors and residents mood and behavior in long-term care settings. *Aging Ment Health, 16*(4), 507–515. doi: [10.1080/13607863.2011.628980](https://doi.org/10.1080/13607863.2011.628980)
- Miller, R. J., Snowdon, J., & Vaughan, R. (1995). The use of the Cohen-Mansfield Agitation Inventory in the assessment of behavioral disorders in nursing homes. *Journal of the American Geriatrics Society, 43*(5), 546–549.
- Morris, J. N., Fries, B. E., Mehr, D. R., Hawes, C., Phillips, C., Mor, V., & Lipsitz, L. A. (1994). MDS Cognitive Performance Scale. *Journal of Gerontology, 49*(4), M174–M182.
- Morris, J. N., Fries, B. E., & Morris, S. A. (1999). Scaling ADLs within the MDS. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences, 54*(11), M546–M553.
- Nakanishi, M., Hirooka, K., Morimoto, Y., & Nishida, A. (2017). Quality of care for people with dementia and professional caregivers’ perspectives regarding palliative care in Japanese community care settings. *International Journal of Geriatric Psychiatry, 32*(12), 1342–1351. doi: [10.1002/gps.4620](https://doi.org/10.1002/gps.4620)
- Nolan, M. R., Davies, S., Brown, J., Keady, J., & Nolan, J. (2004). Beyond person-centred care: A new vision for gerontological nursing. *Journal of Clinical Nursing, 13*(3a), 45–53. doi: [10.1111/j.1365-2702.2004.00926.x](https://doi.org/10.1111/j.1365-2702.2004.00926.x)
- Norbergh, K. G., Helin, Y., Dahl, A., Hellzen, O., & Asplund, K. (2006). Nurses’ attitudes towards people with dementia: the semantic differential technique. *Nursing Ethics, 13*(3), 264–274. doi: [10.1191/0969733006ne863oa](https://doi.org/10.1191/0969733006ne863oa)
- Snijders, T. A., & Bosker, R. J. (1999). *Multilevel analysis: an introduction to basic and advanced multilevel modelling*. London: Sage publications.
- Spector, A., & Orrell, M. (2006). Quality of life (QoL) in dementia: A comparison of the perceptions of people with dementia and care staff in residential homes. *Alzheimer Disease and Associated Disorders, 20*(3), 160–165.
- Steवरink, N., & Lindenberg, S. (2006). Which social needs are important for subjective well-being? What happens to them with aging?. *Psychol Aging, 21*(2), 281–290. doi: [10.1037/0882-7974.21.2.281](https://doi.org/10.1037/0882-7974.21.2.281)
- Travers, C. M., Beattie, E., Martin-Khan, M., & Fielding, E. (2013). A survey of the Queensland healthcare workforce: Attitudes towards dementia care and training. *BMC Geriatrics, 13*(1), 101. doi: [10.1186/1471-2318-13-101](https://doi.org/10.1186/1471-2318-13-101)
- van Beek, A. P., Frijters, D. H., Wagner, C., Groenewegen, P. P., & Ribbe, M. W. (2011). Social engagement and depressive symptoms of elderly residents with dementia: A cross-sectional study of 37 long-term care units. *International Psychogeriatrics, 23*(04), 625–633. doi: [10.1017/S1041610210002061](https://doi.org/10.1017/S1041610210002061)
- Van Beek, A. P., Spreeuwenberg, P. M. M., & Groenewegen, P. P. (2009). *[Innovations in care: evaluation of small scale dementia projects in care organisations] Report in Dutch*. Retrieved from Utrecht:
- van Weert, J. C., van Dulmen, A. M., Spreeuwenberg, P. M., Ribbe, M. W., & Bensing, J. M. (2005). Behavioral and mood effects of snoezelen integrated into 24-hour dementia care. *Journal of the American Geriatrics Society, 53*(1), 24–33. doi: [10.1111/j.1532-5415.2005.53006.x](https://doi.org/10.1111/j.1532-5415.2005.53006.x)
- Veldwijk-Rouwenhorst, A. E., Smalbrugge, M., Wetzels, R., Bor, H., Zuidema, S. U., Koopmans, R., & Gerritsen, D. L. (2017). Nursing home residents with dementia and very frequent agitation: A particular group. *The American Journal of Geriatric Psychiatry, doi: 10.1016/j.jagp.2017.08.002*.
- Verkaik, R., Francke, A. L., van Meijel, B., Spreeuwenberg, P. M., Ribbe, M. W., & Bensing, J. M. (2011). The effects of a nursing guideline on depression in psychogeriatric nursing home residents with dementia. *International Journal of Geriatric Psychiatry, 26*(7), 723–732. doi: [10.1002/gps.2586](https://doi.org/10.1002/gps.2586)
- Willemsse, B. M., De Jonge, J., Smit, D., Visser, Q., Depla, M. F., & Pot, A. M. (2015). Staff’s person-centredness in dementia care in relation to job characteristics and job-related well-being: A cross-sectional survey in nursing homes. *Journal of Advanced Nursing, 71*(2), 404–416. doi: [10.1111/jan.12505](https://doi.org/10.1111/jan.12505)
- Willemsse, B. M., Downs, M., Arnold, L., Smit, D., de Lange, J., & Pot, A. M. (2014). Staff-resident interactions in long-term care for people with dementia: The role of meeting psychological needs in achieving residents’ well-being. *Aging Ment Health, 19*(5), 444–452. doi: [10.1080/13607863.2014.944088](https://doi.org/10.1080/13607863.2014.944088)
- Winzelberg, G. S., Williams, C. S., Preisser, J. S., Zimmerman, S., & Sloane, P. D. (2005). Factors associated with nursing assistant quality-of-life ratings for residents with dementia in long-term care facilities. *The Gerontologist, 45*(suppl_1), 106–114.
- Zimmerman, S., Sloane, P. D., Williams, C. S., Reed, P. S., Preisser, J. S., Eckert, J. K., ... Dobbs, D. (2005). Dementia care and quality of life in assisted living and nursing homes. *The Gerontologist, 45 Spec No 1*(1), 133–146.
- Zimmerman, S., Williams, C. S., Reed, P. S., Boustani, M., Preisser, J. S., Heck, E., & Sloane, P. D. (2005). Attitudes, stress, and satisfaction of staff who care for residents with dementia. *The Gerontologist, 45 Spec No 1*(1), 96–105.