

# Does theatre improve the quality of life of people with dementia?

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## ABSTRACT

**Background:** A new communication method, the “Veder method”, has recently been developed. Caregivers are trained to apply this method in a group activity (“living-room theatre activity”) for people with dementia in which theatrical stimuli are used in combination with proven emotion-oriented care methods. The aim of this exploratory study was to evaluate the added value of the Veder method group activity compared to a regular reminiscence group activity and to investigate whether professional carers can achieve the same effects with the Veder method as professional actors.

**Methods:** A quasi-experimental three-group design was used. Experimental group 1 (E1; n = 65) joined a living-room theatre activity offered by trained professional caregivers. Experimental group 2 (E2; n = 31) joined a living-room theatre activity offered by professional actors. The control group (n = 55) received a usual reminiscence group activity. Behavior, mood and aspects of quality of life were measured using standardized observation scales at three points in time: (T1) pretest; (T2) during the intervention and; (T3) post-test, two hours after the intervention.

**Results:** During the intervention, significant differences were found in favor of the group that was offered a living-room theatre activity by actors (E2) on different aspects of behavior, mood and quality of life. At post-test, people in E2 were more alert compared to the control group. Moreover, they recalled more memories and showed less socially isolated behavior compared to the control group.

**Conclusion:** This exploratory study shows that the Veder method has some clear positive effects on behavior and mood of people with dementia when applied by professional actors.

**Key words:** communication, reminiscence, emotion-oriented care methods, nursing homes, behavior

## Introduction

The number of people diagnosed with dementia is increasing rapidly. Worldwide prevalence is estimated at 35.6 million people and this number will double every 20 years to 115.4 million in 2050 (Alzheimer Disease International, 2009). In the Netherlands, 230,000 people have dementia, and 35% of them receive 24-hour professional care in nursing homes (Alzheimer Nederland, 2010). Progression of the disease is often accompanied by the occurrence of neuropsychiatric symptoms, such as depression, agitation, anxiety, and psychotic

symptoms, with prevalence figures ranging from 1% to 84% (Bakker *et al.*, 2010). A study in the Netherlands showed that 30–35% of the people with dementia living in nursing homes display apathy, agitation, and aggressive behavior (Zuidema *et al.*, 2007). This, together with the presence of cognitive and sensory impairments resulting in decreased communicative abilities, can make it very difficult for caregivers to communicate with the people with dementia. Methods that help them to communicate with people with dementia can improve the behavior, mood, and eventually the quality of life of people with dementia (Vasse *et al.*, 2010).

In a bid to improve communication with – and the quality of life of – people with dementia living in nursing homes, many psychosocial interventions and emotion-oriented care approaches have been developed and implemented in recent decades (e.g. Gibson, 1994; Hopman-Rock *et al.*, 1999;

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Sloane *et al.*, 2004; Finnema *et al.*, 2005; van Weert *et al.*, 2005b). Psychosocial methods and emotion-oriented care approaches are characterized by attention to the subjective experiences of people with dementia and their individual ways of coping with their illness (Finnema *et al.*, 2000; van Mierlo *et al.*, 2010). An example of an emotion-oriented care approach in psychogeriatrics is validation (Feil, 1992); an example of a psychosocial intervention is reminiscence therapy (Woods *et al.*, 2005). In both approaches, there is a strong focus on empathic communication between caregiver and the person with dementia. In addition, the use of music and theatre to optimize the quality of life of people with dementia has been explored (Vink *et al.*, 2004). Receptivity to music remains until the late phases of dementia (Aldridge, 1996) and drama can facilitate reminiscence and help people with dementia to express their feelings (Sandel and Johnson, 1987).

In the Netherlands a new method is being applied to improve the quality of life of people with dementia, called the “Veder method”. This method, developed by a theatre group (Theater Veder), has been widely implemented as a group activity in Dutch nursing homes over the past four years. A total of 882 caregivers on 149 wards were trained in offering the group activity in which theatrical stimuli, such as songs and poetry, are used in combination with elements from successful communication methods in psychogeriatrics, like reminiscence (Woods *et al.*, 2005), validation (Feil, 1992) and neurolinguistic programming (Bandler and Grinder, 1975). Costumes, props and recognizable characters are used to create a stage set. When offered as a group activity on nursing home wards, this activity is called a “living-room theatre activity”.

The purpose of the activity is to reduce apathy and to enhance the sense of personal identity and self-esteem of people with dementia by activating their long-term memory. Positive effects on behavior, mood, and quality of life of the people with dementia are expected during and after the living-room theatre activity.

The Veder method is innovative in that it integrates theatrical stimuli with elements from other communication methods used in dementia care, such as reminiscence and validation. Reminiscence and validation are well-known and commonly used psychosocial care methods in dementia care, but scientific evidence on the effectiveness of these methods is still scarce (Finnema *et al.*, 2000; Woods *et al.*, 2005; Droes *et al.*, 2010; van Mierlo *et al.*, 2010). The integration of different communication methods may increase their effectiveness compared to

their use in isolation. Furthermore, the theatrical elements can stimulate the imagination of people with dementia and/or trigger association, improve reminiscence, and stimulate self-expression (Sandel and Johnson, 1987; Lepp *et al.*, 2003). Where words are sometimes not available due to decreased language abilities, poems and music have the power to stimulate the imagination of people with dementia and can help them to remember and to interact in a different way, for example by nonverbal communication such as singing, laughing and through nonverbal expression of emotions (Wilkinson *et al.*, 1998).

A living-room theatre activity strongly resembles a reminiscence group activity, because retrieving old memories in a group of people with dementia is the central part of the activity. However, a living-room theatre activity according to the Veder method is different from a regular reminiscence activity because it also integrates other supportive communication methods than reminiscence, such as validation and neurolinguistic programming, with theatrical elements. We hypothesize that people who join an activity according to the Veder method will show more positive effects in terms of behavior, mood and quality of life compared to people who attend a regular reminiscence activity.

The primary aim of this study was to evaluate the added value of the Veder “living-room theatre activity” compared to a regular reminiscence group activity. The study focuses on their effects on the behavior, mood, and quality of life of persons with dementia living in nursing homes, during and shortly after the intervention. A second aim was to investigate whether professional caregivers can achieve the same effects with the Veder method as the professional actors of Theater Veder.

## Methods

### Design

A quasi-experimental non-equivalent three-group design was used within a psychogeriatric nursing home setting. Three groups were compared: the first two groups joined in a living-room theatre activity according to the Veder method. Experimental group 1 (E1) was exposed to a living-room theatre activity put on by trained professional caregivers. Experimental group 2 (E2) joined a living-room theatre activity offered by professional actors from Theater Veder. The third group of people with dementia joined a reminiscence group session (control group). A reminiscence group activity was chosen as the control intervention because reminiscence groups also focus on memories to stimulate interaction with people with dementia,

and are frequently offered in Dutch nursing homes. They therefore seemed suitable as a control intervention to investigate the added value of the theatrical Veder Method.

The wards selected for the Experimental group 1 (E1) were matched with comparable wards for Experimental group 2 (E2) and for the control group (C). Matching took place on severity of dementia (based on Mini-Mental State Examination (MMSE) or Global Deterioration Scale (GDS) scores), composition of nursing staff, and the care model used. Measurements on behavior, mood, and quality of life took place at three time points: (T1) pretest, on a day without a living-room theatre or reminiscence group session, 1–7 days before T2; (T2) during a living-room theatre or a reminiscence group session; and (T3) post-test, one and a half to two hours after the group activities. Measurements were carried out between February and November 2010. Approval for the study was obtained from the Medical Ethical Committee of VU Medical Centre in Amsterdam and supplemented by local feasibility statements from the board of directors of the participating nursing homes.

## Participants

### NURSING HOMES

The study took place on 22 wards in 13 Dutch nursing homes willing to cooperate and which met the selection criteria. General selection criteria for all groups were: (1) the presence of a psychogeriatric ward, and (2) the willingness of personnel to join in the research project. An additional criterion for E1 was the presence of personnel who had received coaching by Theater Veder. For the control group (C), the selection criterion was the presence of personnel who had *not* received any coaching by Theater Veder.

To calculate sample size we conducted a power analysis. To find moderate effects with a significance level of  $p = 0.05$  and a power of 0.8 we needed 64 people for each group (Cohen, 1988).

In four nursing homes the E1 ( $n = 5$ ) and C groups ( $n = 4$ ) could be recruited from different wards, as there were two or three comparable wards. In two nursing homes we recruited only E1 groups ( $n = 3$ ), because the entire nursing staff had been trained by Theater Veder. The control groups ( $n = 3$ ) were therefore recruited in two other comparable nursing homes with comparable psychogeriatric wards. In two nursing homes the E1 ( $n = 2$ ) and the C group ( $n = 2$ ) were recruited from the same psychogeriatric ward because these homes had only one large psychogeriatric ward. In these cases the intervention activities (T2) were organized

in a closed room, separated from the living room, and also on different days to avoid contamination of effects. In total, ten experimental E1 and nine C groups were selected in ten different nursing homes. E2 groups ( $n = 5$ ) were recruited on five wards in three other nursing homes.

### RESIDENTS

Inclusion criterion for people with dementia (hereafter termed “residents”) was a medical diagnosis of dementia. Exclusion criteria were: very severe hearing impairment/deaf or visual impairment/blind, Korsakov syndrome and being bedridden. Korsakov syndrome was excluded because of the deviating clinical symptoms and process compared to the most common types of dementia such as Alzheimer’s disease (AD) and vascular dementia.

### INTERVENTION LEADERS

Trained professional caregivers ( $n = 20$ ) led the living-room theatre activity according to the Veder method in Experimental group 1 (E1), while professional actors of Theater Veder ( $n = 10$ ) led the living-room theatre activity in Experimental group 2 (E2). Activity therapists and nurses ( $n = 11$ ) experienced in running a reminiscence group activity offered this for the control group (C). Inclusion criterion for caregivers leading the living-room theatre activity in E1 was that they had been trained and coached by Theater Veder. Inclusion criterion for those leading the reminiscence activity was experience with leading reminiscence group activities. Exclusion criterion for the control group was having received training and coaching from Theater Veder.

## Intervention

People with dementia joined either a living-room theatre activity or a reminiscence activity.

In the E1 group the living-room theatre activities according to the Veder method were organized by two caregivers who had received at least one training and two on-the-job coaching sessions by Theater Veder. In the E2 group, living-room theatre activities were led by two actors of Theater Veder. The training for professional caregivers consisted of teaching the basic principles of the Veder method: a Veder method group activity is built up according to a fixed sequence, beginning with individual contact when welcoming the persons into the group, activating long-term memory, taking a break, activating short-term memory and closing with individual contact to say goodbye. Furthermore, special attention is paid to the use of validation, reminiscence and theatrical stimuli. During the

on-the-job coaching sessions the caregivers had to apply the Veder method in a living-room theatre activity. Afterwards, they received feedback from a Theater Veder coach. A living-room theatre activity has a central theme, and every caregiver/actor plays a role which refers to that theme. Costumes, props and recognizable characters are used to create a stage set. Songs and poems are used as well as objects, smells and flavors that refer to the central theme. Communication and reciprocity are used to positively influence behavior, mood and quality of life.

The reminiscence group activity (C) was led by one or two caregivers who were not trained by Theater Veder, but did have experience with running reminiscence group activities. During the reminiscence group activity, one or two caregivers conduct a conversation with residents about a theme that is related to the past. They stimulate the conversation by providing information about the theme, using photographs and other objects and by asking people questions about their experiences in the past. The same verbal and written instructions were given to every caregiver in advance. The researcher (AMvD) discussed the basic principles of reminiscence (Barendsen and Boonstra, 2008) with the caregivers, such as choosing a central theme and the use of objects and photographs that refer to the chosen theme. For the rest, the caregivers were free to choose the content of the reminiscence activity.

### Procedure

The selected nursing homes sent a standard information letter about the study by mail to the legal guardians of all residents meeting the inclusion criteria. This letter asked them to give signed consent for the person with dementia to participate in the study and, more specifically, for (video) observation and medical background information to be collected. A stamped addressed envelope was included for returning the informed consent form; if it was not returned within three weeks, legal guardians were contacted by telephone. Guardians were informed of their right to withdraw the person with dementia from the study at any time. The persons with dementia who were able to communicate verbally were also asked for their (verbal) permission to participate in the study and to be observed. Professional caregivers were informed about the study by the first author (AMvD) and the contact person in the nursing home. Prior to the observations being made, their verbal consent to (video) observation was requested.

The effectiveness of the intervention was studied by observing participants at T1, T2 and T3. One observer observed a maximum of four participants

and there were never more than two observers per measurement. The observers were not informed about the goal of the research and had no prior information about which condition they were observing. The observer training consisted of providing background information about dementia, explaining the use of the observation scales, practising the use of the observation scales, rating the same patients on a video recording, and discussing any discrepancies afterwards.

The pre- and post-test observations were performed in the living-room of the nursing home ward. Measurements during the intervention took place in the same living-room or in a special activity room. The observers were seated in a corner, where they were able to see the residents. The intervention was also videotaped allow additional observations afterwards (e.g. compliance with the intervention, inter-rater reliability observations).

### Outcome measures

#### BACKGROUND CHARACTERISTICS

Sociodemographic and medical background characteristics of residents were collected. Cognitive impairment was measured with the MMSE (Folstein *et al.*, 1975) administered by the researcher (AMvD) or a research assistant (PvdG or CM) on a different day from the observation days. The Brief Cognitive Rating Scale was assessed by caregivers on the wards. The stage of dementia of each resident was determined using the GDS classification (Reisberg *et al.*, 2003).

#### RESIDENTS' BEHAVIOR

To assess the behavior of the residents the extended version of the measuring instrument INTERACT was used (van Weert *et al.*, 2005a). The extended version of INTERACT consists of 30 items distributed over the subcategories of mood, speech relating to person, speech relating to environment, need for prompting and stimulation level. Of the 30 items, 24 were applicable to this study. In addition, the original INTERACT item "attentive to/responding to/ focused on activity/objects" was divided into two items: "attentive to/ focused on activity /objects" and "responding to activity/objects". Moreover, two study-specific items were added in the subcategory mood: "laughing" and "enthusiasm". The 28 items were scored on a 5-point Likert scale, ranging from (0) "not at all" to (4) "nearly all the time". The INTERACT was originally designed for the evaluation of snoezelen-sessions (Baker and Dowling, 1995; van Weert *et al.*, 2005a) and can therefore also be used to evaluate effects of the time-set activities in our research. Inter-rater reliability (mean Pearson's *r*) of

the INTERACT items was 0.83 (range 0.68–0.99) (van Weert *et al.*, 2005a).

*Overall mood* of the residents was measured by scoring a face expression (FACE), based on a 3-point Likert scale (van Weert *et al.*, 2005a):

- ☹ if frown predominated
- ☺ if the expression was neutral
- ☺ if smile predominated

The inter-rater reliability of FACE was 0.84 (mean Person's  $r$ ) in the study by van Weert *et al.* (2005a).

Quality of life was measured with the QUALIDEM (Ettema *et al.*, 2007a; 2007b) a structured observation list for use in residential care settings. The QUALIDEM consists of 37 items describing observable behavior, distributed over nine subscales. These subscales are: care relationship, positive affect, negative affect, restless tense behavior, positive self-image, social relations, social isolation, feeling at home and having something to do. The 4-point scale provides four response options: never, seldom, sometimes and often. The observer is asked to assess the behavior of the person with dementia in the past two weeks. In this study a restricted time period was used because the observations only lasted 30–90 minutes. As they could not be observed properly in the limited time span or in the group activity context, the following four items were removed: “rejects help from nursing assistants”, “appreciates help that he or she receives”, “accepts help” (items of subscale “care relationship”) and “finds things to do without help from others” (item of subscale “having something to do”). Ettema *et al.* (2007a; 2007b) found a sufficient internal consistency (Cronbach's  $\alpha = 0.59$ – $0.89$ ) and sufficient reliability within the subscales ( $\rho = 0.60$ – $0.90$ ). Test-retest reliability varied from 0.74 to 0.88.

In addition, *involvement* of the residents in their environment was measured on a 4-point Likert scale: (0) withdrawn/no contact, (1) alert, short or interrupted involvement, (2) showing concentration but able to be distracted, and (3) highly involved. This scale is derived from the Dutch Dementia Care Mapping scoring list (Beavis *et al.*, 2002).

Data on all mentioned outcome measures were collected at the three measuring moments (T1–T3). Finally, a single question, derived from the RAND-36, was completed verbally by the participants at pre- and post-test to measure perceived quality of life. Answering options ranged from (1) excellent to (5) bad (van der Zee and Sanderman, 1993).

## Quality of performance of the intervention

The adequate application of the Veder method (performance) was measured using an instrument developed in an earlier study (Tol *et al.*, 2009) to measure the quality of the execution of the living room theatre activity (T2) (Performance Veder method, inter-rater reliability = 71.9%). The list consists of 20 items, measured on a 4-point Likert scale (range 1–4). Example of a question in this instrument is “Is the communication (in terms of body language, tone of voice, speed of speech and voice expression) adjusted to the individual?”

In addition, the number of offered theatrical stimuli was scored. Also, the duration of the intervention and the number of people with dementia joining in the intervention were recorded. The video recordings were used to score this list.

Subsequently a list of 14 items was developed for this study to measure performance of reminiscence. This list was based on the basic principles and preconditions of reminiscence (Barendsen and Boonstra, 2008). An example of a question in this list is “Is there a good balance between asking for and giving information?”

## Data analysis

For the data analysis we used the SPSS-Windows 15.0 program and MLwiN Package 2.21. Descriptive statistics were obtained for every group, including loss to follow up, non-response and refusers. To find out if the experimental groups and the control group were comparable on descriptive variables (i.e. age, sex, duration of illness), we used  $\chi^2$  tests on nominal variables. The Kruskal-Wallis and Mann-Wittney U test were performed to examine differences between groups on ordinal and interval variables. The same statistical tests were used to perform a non-response analysis, in order to analyze the differences between the participants in our study and the group of people with dementia who refused to participate in the study or who did not respond at all. The group that dropped out during the study was also compared with the remaining sample.

Spearman rank correlation coefficients, Mann-Whitney U tests and  $\chi^2$  tests were calculated between the the outcome measures and the ordinal and nominal variable(s) that differed significantly in the experimental and control groups ( $p < 0.05$ ) to decide whether these variables had to be treated as confounding variables in the effect analyses. Mann-Whitney U tests were also performed to compare groups on compliance with the intervention.

Inter-rater reliability (IRR) of resident behavior was measured by watching the video recordings. Ten percent of the total number of observations

of each individual observer was rated again by a second, independent observer. In this way a total of 109 IRR observations were carried out. Inter-rater reliability was not measured for those behaviors that were observed in less than 2% of the participants (Ford *et al.*, 1996). A  $\kappa$  coefficient was calculated between the original score and the second score on the QUALIDEM, INTERACT and involvement. As  $\kappa$  could not be calculated on many items due to empty cells (i.e. insufficient variation in scores), the scores were dichotomised. Values between 0.21 and 0.40 are considered fair, between 0.41 and 0.60 moderate and values  $> 0.61$  good (Altman, 1991). For FACE, which has a 3-point scale, a Pearson's correlation was calculated.

Univariate covariance analyses (ANCOVA) were carried out to compare outcome measures at T2 and T3 in the three groups, while the baseline data (T1) and confounding variables were included in the analysis as covariates. This strategy is recommended in small samples (Cohen, 1988). Statistical analyses were corrected for multiple testing with the Bonferroni confidence interval adjustment. Because of the expected added value of the Veder method, we used one-tailed tests with a significance level of 5%. Multilevel analyses were performed on the variables that showed significant differences in the original ANCOVAs. In these analyses in which the control (reminiscence) group was the reference group, baseline data (T1) were included in the analysis to correct for differences between groups at baseline.

## Results

### Response

In total, 220 people with dementia were assessed as eligible for the study. Their legal guardians were asked to give written informed consent, of whom 168 (76.8%) responded, 33 (15.0%) refused and 15 (6.8%) did not respond. Reasons for refusal are listed in the flow chart (Figure 1). After receiving the consent, three residents were excluded because it transpired that they did not meet the inclusion criteria. The people not willing to participate ( $n = 48$ ) were analyzed on demographic characteristics. We found no significant differences between participants and people not willing to participate on age, gender, type of dementia, predominant features and duration of illness. Drop-outs at T2 (experimental ( $n = 8$ ), control ( $n = 6$ )) were compared with the participants of the study on age, gender, education, diagnosis, predominant features, duration of illness and MMSE score. No significant differences were found.

Missing values at pre- and post-test are also listed in Figure 1, as are the reasons for these missing observations.

### Background characteristics

Table 1 summarizes the background characteristics of participants in the two experimental groups versus the control group. It shows significant differences between groups for the variable education level ( $p < 0.05$ ). There were significantly more people who had had only primary education in E2 (75.0%,  $p < 0.05$ ), but the education level did not correlate significantly with any of the outcome variables. Therefore, education level was not included as a covariate in the analyses.

### Descriptives and performance of the intervention

Table 2 contains descriptives of the intervention group activities at T2. The intervention for E1 and C were led by professional caregivers. In E2, professional actors led the intervention. Mean duration of the intervention in E1 was 45 minutes, in E2 68 minutes and in C the mean group activity duration was 48 minutes. The performance score of the Veder method (= adequate performance of the method) was highest in E2, and pairwise comparison showed significant differences between E2 and C and between E1 and C on a  $p$ -level  $< 0.05$ , in favor of the experimental groups. The performance score of reminiscence differed between groups. However, the difference was significant only between E2 and E1 ( $p < 0.05$ ) with E2 incorporating more elements of reminiscence. The number of theatrical stimuli was highest in E2 and it was different for all groups. Pairwise comparison showed significant differences between E1-E2, E1-C and E2-C on a  $p$ -level  $< 0.001$ .

### Inter-rater reliability

The mean inter-rater reliability ( $\kappa$ ) for the QUALIDEM subscales was 0.428 (range 0.315–0.644), for the INTERACT items 0.327 (range 0.119–0.591), and for Involvement 0.372. Inter-observer correlation (mean Pearson's  $r$ ) for FACE was 0.484.

### Outcomes

In 95.2% (118 out of 124) of all cases, the resident was observed by the same person during the three different measurements (T1 to T3).

Pre- and post-test measurements took place at the same time on two different days (length: 90 minutes). At the end of the pre- and post-test observations, the people with dementia were asked a

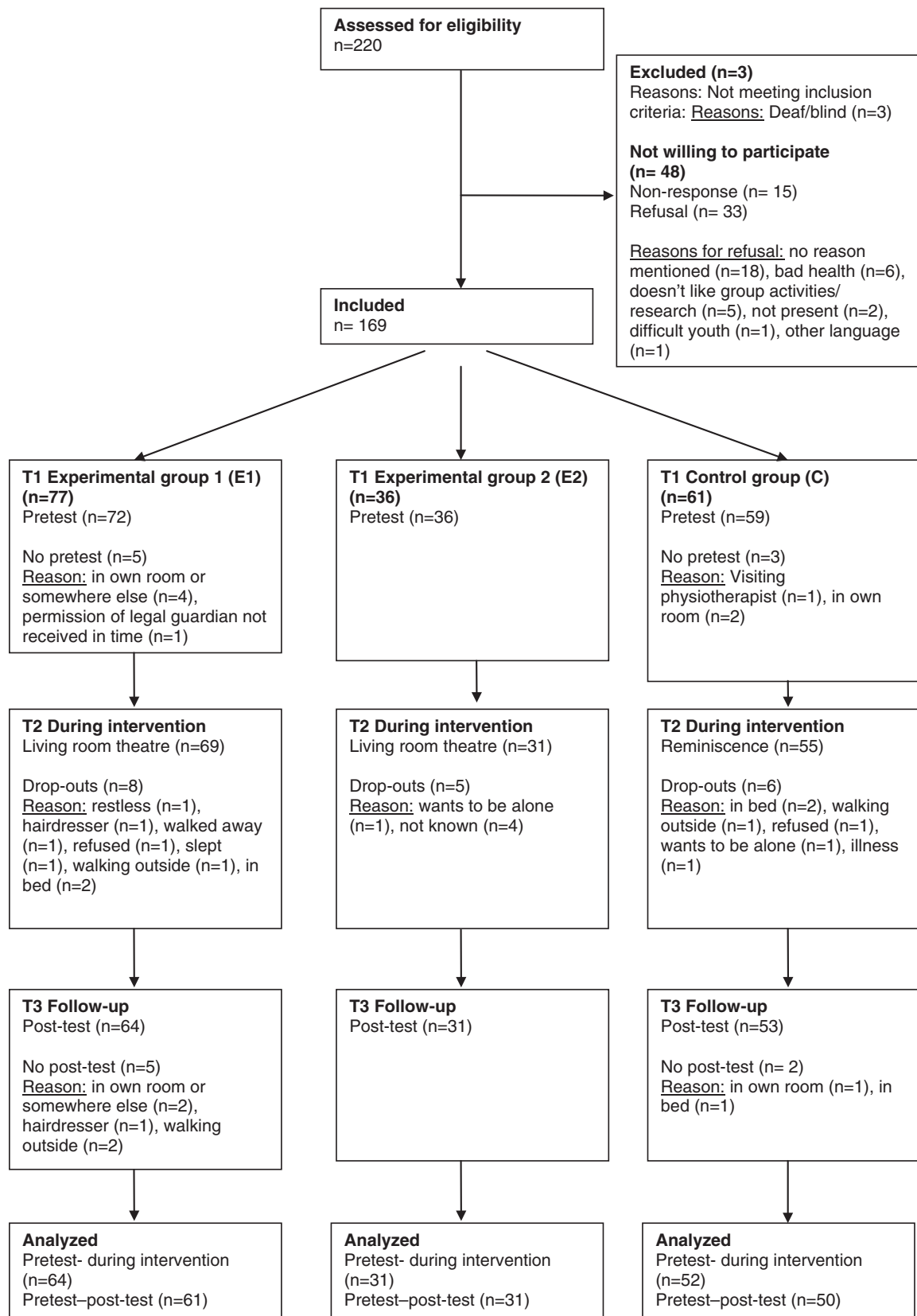


Figure 1. Flow chart of the study

**Table 1.** Background characteristics by treatment group

RESIDENT CHARACTERISTIC	E1: VEDER METHOD PROFESSIONAL CAREGIVERS (N = 69)		E2: VEDER METHOD ACTORS (N = 31)		C: REMINISCENCE PROFESSIONAL CAREGIVERS (N = 55)		$\chi^2$ P-VALUE <sup>c</sup>
	N TOTAL	VALUE	N TOTAL	VALUE	N TOTAL	VALUE	
	Female, n (%)	69	51 (73.9)	31	29 (93.5)	55	
Age, years (SD)	68	84.4 (7.9)	31	85.6 (5.9)	55	86.1 (6.2)	$\chi^2 = 0.99$ $P = 0.208$
Education, n (%)	38		24		39		$\chi^2 = 13.29$ $p = 0.039^*$
- Primary school		12 (31.6)		18 (75.0)		17 (43.6)	
- Low		10 (26.3)		4 (16.7)		7 (17.9)	
- Middle-high		9 (23.7)		2 (8.3)		8 (20.5)	
- High		7 (18.4)		0 (0.0)		7 (17.9)	
Recent events, n (%)	67		31		55		$\chi^2 = 0.90$ $p = 0.637$
Yes		14 (20.9)		27 (87.1)		10 (18.5)	
No		53 (79.1)		4 (12.9)		44 (81.5)	
Years in nursing home, mean (SD)	66	1.6 (1.7)	29	2.0 (1.7)	53	1.9 (2.4)	$\chi^2 = 1.91$ $p = 0.384$
Duration of illness in years, mean (SD)	65	3.3 (3.0)	25	3.3 (2.5)	50	3.0 (2.4)	$\chi^2 = 0.41$ $p = 0.817$
Type of dementia, n (%)	67		31		54		$\chi^2 = 9.13$ $p = 0.331$
- Alzheimer		32 (47.8)		18 (58.1)		21 (39.6)	
- Vascular dementia		9 (13.4)		6 (19.4)		4 (7.5)	
- Alzheimer + other dementia		7 (10.4)		1 (3.2)		8 (15.1)	
- Dementia not specified		13 (19.4)		5 (16.1)		13 (24.5)	
- Other		6 (9.0)		1 (3.2)		7 (13.2)	
Predominant features, n (%)	66		31		53		$\chi^2 = 12.37$ $p = 0.718$
- Uncomplicated		48 (72.7)		31 (100.0)		44 (84.6)	
- With delirium		5 (7.6)		0 (0.0)		2 (3.8)	
- With psychosis		3 (4.5)		0 (0.0)		1 (1.9)	
- With depressed mood		6 (9.1)		0 (0.0)		3 (5.8)	
- Other		4 (6.1)		0 (0.0)		2 (3.8)	
MMSE-score, mean (SD)	67	10.8 (7.9)	No value <sup>a</sup>		51	13.2 (6.6)	$Z = -1.64^a$ $p = 0.102$
GDS-score, mean (SD)	68	5.4 (1.3)	24	5.3 (0.9)	53	5.1 (1.2)	$\chi^2 = 2.69$ $p = 0.260$
Number of psychopharmaca, n (%)	65		31		54		$\chi^2 = 12.33$ $p = 0.055$
- No pp-drugs <sup>b</sup>		36 (55.4)		15 (48.5)		36 (66.7)	
- 1 pp- drug		18 (27.7)		9 (29.0)		14 (25.9)	
- 2 pp-drugs		6 (9.2)		7 (22.6)		4 (7.4)	
- 3 pp-drugs		5 (7.7)		0 (0.0)		0 (0.0)	

\* Significant on a  $p = 0.05$  level.

a. No MMSE-scores were obtained for people with dementia in Experimental group 2. A Mann-Whitney U test was used to examine differences in MMSE-scores between the control group and Experimental group 1.

b. pp-drugs = psychopharmacological drugs

c. Differences between groups are described in the text

MMSE = Mini-Mental State Examination; GDS = Global Deterioration Scale

single question regarding their quality of life, unless they were no longer able to communicate verbally ( $n = 63$ ).

The results of the ANCOVAs indicated that there are no significant differences between groups on 14

INTERACT items: spoke clearly, spoke sensibly, appropriate eye contact, related well, responded to speaking, tracked stimuli, touched appropriately, responding to activity, comments or questions about activities, did things from own initiative, wandering,



**Table 2.** Description of interventions at T2

	EXPERIMENTAL GROUP 1 (E1)	EXPERIMENTAL GROUP 2 (E2)	CONTROL GROUP (C)
<b>Descriptives</b>			
Type of intervention	Living room theatre	Living room theatre	Reminiscence activity
People leading the intervention	professional caregivers	professional actors	professional caregivers
Number of residents joining the intervention, mean (SD)	7.6 (1.9)	8.9 (1.5)	12.4 (3.3)
Duration in minutes, mean (SD)	48 (8.0)	68 (7.8)	45 (15.7)
<b>Performance of the intervention</b>			
Performance score Veder method, mean (SD) (range = 20–80)	66.2 (8.3)**	75.4 (0.9)**	54.2 (4.8)**
Performance score Reminiscence, mean (SD) (range = 14–56)	44.6 (5.9)*	50.6 (1.5)*	47.0 (4.4)*
Theatrical stimuli, mean (SD)	10.3 (3.7)***	26.6 (3.9)***	1.2 (1.9)***

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$  (see text for pairwise comparisons)

restless, bored/ inactive, relaxed/ content. No significant differences between groups were found on two QUALIDEM subscales: restless behavior and social relations. Also no differences were found between groups on the FACE scale and self-reported overall quality of life. The table with results of the ANCOVA analysis can be requested from the authors. Table 3 contains the baseline scores of the outcome measures of the multilevel analysis.

Table 4 contains the variables that showed significant differences between groups in the originally conducted ANCOVAs. Results of the multilevel analysis are presented as the  $\beta$  coefficients, standard errors, confidence intervals and p-values of the outcome measures during the intervention and at post-test. The results of the measurements during the intervention (T2), show significant differences between E1, E2 and the control group on six INTERACT items: confused, laughing, enthusiasm, talked spontaneously, recalled memories, spoke with normal length sentences and touching. Significant effects are found on three QUALIDEM subscales: care relation, positive self-image and feeling at home. During the intervention, persons in E1 showed more touching compared to people in the control group. Persons in E2 were less confused, laughed more and touched more compared to people in the control group. Persons in E1 and E2 recalled fewer memories and spoke less in normal length sentences compared to people in the control group. Furthermore, persons in E2 talked spontaneously less often than persons in the control group. Persons in E1 obtained lower scores on care relation and positive self-image compared to people in the control group, and they showed less behavior expressing that they felt at home.

Significant effects at post-test (1.5 to 2 hours after the intervention) are found on eight INTER-

ACT items: happy/content, enthusiasm, recalling memories, cooperated, listened to voice/noise, attentive to activity, enjoying self and alert/active. Differences between E1, E2 versus the control group were also found on five QUALIDEM subscales: care relation, positive affect, social isolation, feeling at home and having something to do. At post-test, people in E2 were happier and recalled more memories compared to the control group. They were also more alert and listened better to voice/sounds and were more attentive to activity compared to the control group. Persons in E2 showed less socially isolated behavior and felt more at home than the control group. In contrast, people in E1 were less enthusiastic and cooperative and enjoyed themselves less than the control group after the intervention. People in E1 also had lower scores on positive affect and felt less at home compared to the control group. They also demonstrated less involvement than the control group at post-test.

For a visualization of the outcome measures “Social isolation” and “Alert/active”, see Figures S1 and S2, available as supplementary material attached to the electronic version of this paper at [www.journals.cambridge.org/jid\\_IPG](http://www.journals.cambridge.org/jid_IPG).

## Discussion

This study should be viewed as the first exploratory study into the effects of the Veder method on people with dementia and of the feasibility of the intervention. The main aim of our research was to evaluate the added value of the Veder method compared to reminiscence on behavior, mood, and quality of life of people with dementia in nursing homes. First of all, we used observation lists in order to measure the performance of reminiscence

**Table 3.** Baseline measures (pretest, T1)

OUTCOME MEASURES	BASELINE		
	mE1 (SE)	mE2 (SE)	mC (SE)
QUALIDEM (range)			
INTERACT (range 1–5)			
<b>Mood</b>			
Tearful / sad	1.55 (0.11)	1.13 (0.06)	1.48 (0.12)
Happy / content	2.88 (0.15)	3.45 (0.20)	3.27 (0.15)
Fearful / anxious	1.39 (0.10)	1.32 (0.10)	1.31 (0.09)
Confused	1.61 (0.11)	1.58 (0.13)	1.67 (0.14)
Laughing	1.80 (0.11)	2.32 (0.18)	2.00 (0.13)
Enthusiasm	2.02 (0.13)	2.42 (0.17)	2.19 (0.15)
<b>Speech</b>			
Talked spontaneously	2.59 (0.14)	2.77 (0.17)	2.75 (0.15)
Recalled memories	1.33 (0.10)	1.64 (0.13)	1.69 (0.15)
Spoke in normal length sentences	3.72 (0.17)	4.33 (0.18)	3.77 (0.19)
<b>Relating to person</b>			
Touching	1.63 (0.11)	1.81 (0.14)	1.75 (0.13)
Co-operated	4.17 (0.14)	4.61 (0.13)	4.19 (0.18)
Listened to voice/sounds	3.73 (0.11)	4.19 (0.12)	3.90 (0.13)
<b>Relating to Environment</b>			
Attentive to activity	2.89(0.15)	3.87 (0.12)	3.71 (0.14)
Responding to activity	2.19 (0.15)	3.26 (0.14)	2.73 (0.16)
<b>Stimulation level</b>			
Enjoying self	2.63 (0.15)	2.90 (0.19)	2.96 (0.16)
Alert / active	3.05 (0.14)	3.35 (0.15)	3.58 (0.25)
Care relationship (0–12)	10.73 (0.31)	11.19 (0.38)	11.00 (0.29)
Positive affect (0–18)	9.69 (0.58)	11.90 (0.71)	10.65 (0.62)
Negative affect (0–9)	8.23 (0.22)	8.68 (0.11)	8.40 (0.15)
Positive self image (0–9) <sup>b</sup>	8.50 (0.20)	8.68 (0.13)	8.42 (0.15)
Social isolation (0–9)	7.48 (0.24)	8.23 (0.23)	8.17 (0.18)
Feeling at home (0–12)	10.13 (0.30)	10.74 (0.23)	10.60 (0.26)
Having something to do (0–8)	1.86 (0.17)	2.52 (0.33)	2.34 (0.23)
INVOLVEMENT (range 0–3)	1.59 (0.13)	1.87 (0.17)	1.63 (0.13)

mE1 = Mean score Experimental group 1

mE2 = Mean score Experimental group 2

mC = Mean score Control group

SE = standard error

and the adequate application of the Veder method. The results show differences between the *type* of intervention – the Veder method “living-room theatre activity” offered by professional caregivers or actors versus reminiscence. Significant differences on performance scores for reminiscence were found only between experimental groups E1 and E2, in favor of E2. Performance scores of the Veder method were significantly higher for “living-room theatre activities” than for reminiscence activities. In addition, much more use was made of theatrical stimuli in ‘living-room theatre’ according to the Veder method than in the reminiscence activity. These results indicate that “living-room theatre” according to the Veder method is not only theoretically different from a reminiscence group activity, but also in its actual application in a group activity.

Effects of the living-room theatre activity on behavior, mood, and quality of life of people with dementia were studied during the intervention and at post-test (1.5 to 2 hours after the intervention). Results on outcome measures during the intervention indicate clear added value of a living-room theatre activity when offered by professional actors. People with dementia in this group laughed more during the intervention and were less confused than people in the reminiscence group. Effects on laughing in our study were new, but a decrease in disorientation was also seen in other studies, such as a study on a life review program (Tabourne, 1995). In E1 and E2, people with dementia showed more “touching” during the intervention compared to people in the control group. In a snoezelen-program care staff behavior showed more “affective touching”

**Table 4.** Effects of multilevel analysis on outcome measures during and after the intervention (significant effects in bold).

OUTCOME MEASURE	DURING INTERVENTION						POST-TEST					
	E1			E2			E1			E2		
	$\beta$ (SE)	CI	P	$\beta$ (SE)	CI	P	$\beta$ (SE)	CI	P	$\beta$ (SE)	CI	P
<b>INTERACT (range 1–5)</b>												
Tearful / sad	0.13 (.12)	[-0.10, 0.35]	0.14	-0.20 (0.14)	[-0.47, 0.08]	0.08						
Happy / content							-0.04 (0.16)	[-0.35, 0.27]	0.40	0.34 (0.19)	[-0.03, 0.71]	<b>0.04</b>
Fearful/anxious	0.12 (.08)	[-0.05, 0.28]	0.08	-0.08 (0.10)	[-0.27, 0.12]	0.22						
Confused	-0.07 (.12)	[-0.32, 0.17]	0.28	-0.41 (0.15)	[-0.70, -0.11]	<b>0.00</b>						
Laughing	0.19 (.15)	[-0.10, 0.48]	0.10	0.43 (0.18)	[0.08, 0.78]	<b>0.01</b>						
Enthusiasm							-0.42 (0.21)	[-0.83, 0.00]	<b>0.03</b>	0.25 (0.25)	[-0.24, 0.74]	0.16
Talked spontaneously	-0.26 (.18)	[-0.61, 0.10]	0.08	-0.44 (0.22)	[-0.87, -0.01]	<b>0.02</b>						
Recalled memories	-1.17 (.18)	[-1.53, 0.81]	<b>0.00</b>	-0.75 (0.22)	[-1.19, -0.32]	<b>0.00</b>	0.09 (0.13)	[-0.16, 0.34]	0.24	0.40 (0.16)	[0.10, 0.70]	<b>0.01</b>
Spoke with normal length sentences	-0.47 (.17)	[-0.79, -0.14]	<b>0.00</b>	-0.47 (0.20)	[-0.87, -0.07]	<b>0.01</b>						
Touching	0.47 (.20)	[0.08, 0.86]	<b>0.01</b>	0.47 (0.24)	[0.01, 0.93]	<b>0.02</b>						
Co-operated							-0.51 (0.19)	[-0.87, -0.14]	<b>0.00</b>	0.04 (0.22)	[-0.40, 0.47]	0.44
Listened to voice/ sounds							-0.09 (0.17)	[-0.43, 0.25]	0.30	0.50 (0.20)	[0.10, 0.90]	<b>0.01</b>
Attentive to activity							-0.20 (0.23)	[-0.65, 0.25]	0.19	0.62 (0.26)	[0.11, 1.13]	<b>0.01</b>
Enjoying self							-0.42 (0.22)	[-0.86, 0.01]	<b>0.03</b>	0.17 (0.26)	[-0.34, 0.68]	0.26
Alert / active							-0.02 (0.22)	[-0.45, 0.40]	0.46	0.47 (0.25)	[-0.03, 0.97]	<b>0.03</b>
<b>Qualidem (range)</b>												
Care relation (0–12)	-0.41 (.21)	[-0.82, 0.01]	<b>0.03</b>	0.21 (0.26)	[-0.30, 0.71]	0.21	-0.64 (0.36)	[-1.33, 0.06]	<b>0.04</b>	0.47 (0.42)	[-0.36, 1.29]	0.13
Positive affect (0–18)							-1.40 (0.80)	[-2.96, 0.17]	<b>0.04</b>	0.66 (0.94)	[-1.18, 2.50]	<b>0.24</b>
Negative affect (0–9)	-0.18 (.12)	[-0.42, 0.06]	0.07	0.05 (0.15)	[-0.24, 0.34]	0.37						
Positive self image (0–9)	-0.33 (.12)	[-0.56, -0.09]	<b>0.00</b>	-0.13 (0.15)	[-0.42, 0.16]	0.19						
Social isolation (0–9)							-0.10 (0.28)	[-0.66, 0.45]	0.36	0.57 (0.33)	[-0.08, 1.22]	<b>0.04</b>
Feeling at home (0–12)	-0.54 (.29)	[-1.11, 0.03]	<b>0.03</b>	0.23 (0.35)	[-0.46, 0.92]	0.25	-0.49 (0.25)	[-0.97, -0.01]	<b>0.02</b>	0.51 (0.29)	[-0.06, 1.08]	<b>0.04</b>
Having something to do (0–8)							-0.31 (0.27)	[-0.84, 0.22]	0.13	-0.62 (0.33)	[-1.26, 0.02]	<b>0.03</b>
<b>Involvement (range 0–3)</b>							-0.30 (0.17)	[-0.64, 0.03]	<b>0.04</b>	0.20 (0.20)	[-0.20, 0.59]	0.17

E1 = Experimental group 1, theatre living-room activity by caregivers; E2 = Experimental Group 2, theatre living-room activity by professional actors  
 $\beta$  = beta coefficient, with control (reminiscence) group as reference group, se = standard error, CI = confidence interval, p = p = value.

(van Weert *et al.*, 2006). However, as far as we know, these effects have not yet been reported in people with dementia. During the intervention, scores on “speech” (e.g. talking spontaneously and recalling memories) were higher in the control group than in the experimental groups. Improvements in speech during the intervention have not been found in earlier studies on reminiscence activities, but were found in studies on movement activation, a resident dog and snoezelen (McCabe *et al.*, 2002; van Weert *et al.*, 2005b). Since stimulating conversation is one of the main goals of reminiscence groups, it is not surprising that the control group had higher scores. A more surprising result is that people in E2 recalled significantly more memories compared to the control group 1.5 to 2 hours after the intervention (at post-test). We did not find a similar effect in other studies. At post-test, people in E2 also showed significantly less socially isolated behavior and more alertness (attentive to activity and “listening to voice/sounds”) compared to the control group. Comparable positive effects on social interaction and social involvement have been found in effect studies on snoezelen, a life review program, movement activation, and meeting centers (Tabourne, 1995; Dröes and van Tilburg, 1996; Camberg *et al.*, 1999; Hopman-Rock *et al.*, 1999; Dröes *et al.*, 2000; 2004; van Weert *et al.* 2005b; Fritsch *et al.* 2009). After the intervention, people in E2 were also happier and showed more instances of behavior expressing they felt more at home compared to the control group. Persons in E1 were less enthusiastic and less able to enjoy themselves at post-test compared to the control group. They felt less at home and were less cooperative than the control group. In terms of clinical relevance, the moderate to large positive effects on laughing during the intervention, and recalling memories, alertness and less social isolation at post-test, can be considered as important added effects of the Veder method. It is promising that the Veder method as applied by actors seems to reduce common problems among people with dementia in nursing homes, such as apathy and social isolation. The lower effects for persons in E1 are probably explained by the fact that E1 had lower reminiscence performance scores than E2, which means that persons in E1 (in which care personnel provided the activity) joined a living-room theatre activity which was performed less adequately compared to E2 (in which professional actors led the activity). Another important element to consider is that the duration of the living-room theatre activity offered by actors was generally longer than the duration of the interventions offered by caregivers. This also may have contributed to outcome differences in favor of E2.

The second aim of our research was to investigate whether professional caregivers who are trained to apply the Veder method in a group activity can achieve the same outcomes as professional actors. Our study indicates that professional actors achieve different and more positive effects on behavior, mood, and quality of life of people with dementia compared to trained caregivers. Results show differences between people during the intervention on mood (confused, laughing) in favor of those who joined the living-room theatre activity offered by actors. At post-test, people in the “actors group” had better scores on mood (happy), feeling at home, socially isolated behavior and alertness. Several comments are in order regarding these outcomes. During the qualitative evaluation of the intervention with the caregivers, the caregivers leading the living-room theatre activity felt less satisfied about their performance compared to caregivers in the reminiscence group. Caregivers leading the living-room theatre activity reported being nervous due to the research observations being made and the presence of cameras more often than the caregivers leading a reminiscence activity. Some felt uncomfortable and reported that offering a living-room activity was normally not that difficult for them. A reason for this can be that caregivers are more used to leading a reminiscence activity, as reminiscence has been used in the Netherlands for a long time. Caregivers were trained over a relatively short time to perform the living-room theatre activity and it was not given as part of the residents’. There were also disruptions in several living-room theatre activities led by caregivers, e.g. a dentist arriving to collect a resident for treatment and someone starting to drill in the wall outside the activity room.

A few methodological considerations need attention. We used a quasi-experimental three-group design. This carried a risk of biased results due to differences between nursing home wards and residents. In order to improve comparability of the groups and to reduce the risk of effect bias, we globally matched the nursing homes on severity of dementia of residents, composition of nursing staff and the applied care model in advance. Furthermore, differences between groups on baseline characteristics were included in the analyses as covariates.

A second limitation of our study is that the post-test measurement was performed shortly after the intervention. No long-term effects have been studied. As mentioned before, our research was performed in nursing home wards where the Veder method had not yet been implemented as part of regular care. Therefore, we decided to measure only the short-term follow-up (1.5 to 2 hours after

the intervention). In future research, longer-term effects could be studied in nursing homes where the Veder method is more structurally implemented within the regular care program.

A third limitation of this study is that the number of participants included in our study was somewhat lower than initially planned, and not equally distributed. Specifically, the group that received the living-room theatre activity offered by professional actors was smaller than the other two groups. This was mainly due to the lack of time to organize the sessions. Because of the small sample, the power of the tests was very small and possible effects may not have been found. The small sample size of this study also affects the generalizability of the results. Differences in groups may not have been found due to lack of statistical power. In addition, the severity of cognitive impairment in the residents may influence the results. We recommend that in future, research groups are defined based on the severity of dementia, and that separate analyses are conducted for these groups.

A fourth limitation of our study is that the inter-rater reliability (IRR) of some items and subscales was low. Therefore, the results should be treated with caution. We must point out that the IRR in previous studies using the same instrument was sufficient to good. The low IRR in our study may have been influenced by the fact that second observations were not performed live, but by watching video recordings afterwards. The quality of these video recordings (i.e. sound and image) was not very good and very different from the “live” observations, which made it difficult for the second observer to score the observation list reliably. To check if the low IRR was due to different methods of observation, it is advisable to test the IRR based on the same observation method in future studies. To maximize the reliability of measurements, each resident was observed by the same person at the three different time points (T1 to T3).

Despite the limitations, our study contributes to the development of evidence-based standardized time-set activities (Livingston *et al.* 2005; Vasse *et al.* 2010). This study explored a new psychosocial intervention, since research on interventions in which theatrical stimuli are used to communicate with people with dementia living in nursing homes is scarce (Fritsch *et al.* 2009). We found positive results of the Veder method intervention on behavior, mood aspects, speech, and social engagement during and after the interventions, which illustrates the importance of organizing group activities in nursing homes. Our results suggest that the professional actors added value to the living-room theatre activity compared to the theatre activities and reminiscence activities offered by

trained caregivers. Further research is therefore recommended with larger sample sizes and higher power to study the effects of the living-room theatre activity according to the Veder method as performed by professional actors. In addition, further research is needed on the effects of living-room theatre as performed by caregivers in a later phase of implementation, when caregivers are more skilled at performing living-room theatre. Another recommendation is to investigate the feasibility and effectiveness of using elements of the Veder method in 24-hour dementia care.

### Conflict of interest

None.

### Description of authors' roles

A.M. van Dijk carried out the data collection, performed statistical analyses of the data and wrote the paper. R.M. Dröes and J.C.M. van Weert designed the study, formulated the research questions, supervised the data collection and data analysis and were involved as co-authors in writing the paper.

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### References

- Aldridge, D. (1996). The body, its politics, posture and poetics. *The Arts in Psychotherapy*, 23, 105–112.
- Altman, D. G. (1991). *Practical Statistics for Medical Research*. London: Chapman & Hall.
- Alzheimer's Disease International (2009). *World Alzheimer Report 2009*. London: Alzheimer's Disease International. Available at [www.alz.co.uk/research/files/WorldAlzheimerReport.pdf](http://www.alz.co.uk/research/files/WorldAlzheimerReport.pdf).
- Alzheimer Nederland (2010). *Dementie*. Bunnik, The Netherlands: Alzheimer Nederland. Available at <http://www.alzheimer-nederland.nl/informatie/wat-is-dementie/dementie.aspx>.

- Baker, R. and Dowling, Z.** (1995). *INTERACT*. Bournemouth: Dorset Healthcare NHS Trust.
- Bakker, T. J., Duivenvoorden, H. J., van der, L. J., Olde Rikkert, M. G., Beekman, A. T. and Ribbe, M. W.** (2010). Integrative psychotherapeutic nursing home program to reduce multiple psychiatric symptoms of cognitively impaired patients and caregiver burden: randomized controlled trial. *American Journal of Geriatric Psychiatry*. doi: 10.1097/JGP.0b013e3181eafdc6.
- Bandler, R. and Grinder, J.** (1975). *The Structure of Magic I: A Book about Language and Therapy*. Palo Alto, CA: Science and Behavior Books, Inc.
- Barendsen, I. and Boonstra, W.** (2008). *Terug naar Toen*. Baarn: HB Uitgevers.
- Beavis, D., Simpson, S. and Graham, I.** (2002). A literature review of dementia care mapping: methodological considerations and efficacy. *Journal of Psychiatric and Mental Health Nursing*, 9, 725–736. doi: 10.1046/j.1365-2850.2002.00508.x.
- Camberg, L. et al.** (1999). Evaluation of simulated presence: a personalized approach to enhance well-being in persons with Alzheimer's disease. *Journal of the American Geriatrics Society*, 47, 446–452.
- Cohen, J.** (1988). *Statistical Power Analysis for the Behavioral Sciences*. New Jersey: Lawrence Erlbaum Associates.
- Dröes, R. M. and van Tilburg, W.** (1996). Amélioration du comportement agressif par des activités psychomotrices. *L'Année Gériatologique*, 10, 471–482.
- Dröes, R. M., Breebaart, E., van Tilburg, W. and Mellenbergh, G. J.** (2000). The effect of integrated family support versus day care only on behavior and mood of patients with dementia. *International Psychogeriatrics*, 12, 99–116. doi: 10.1017/S1041610200006232.
- Dröes, R. M., Meiland, F. J. M., Schmitz, M. and van Tilburg, W.** (2004). Effect of combined support for people with dementia and carers versus regular day care on behaviour and mood of persons with dementia: results from a multi-centre implementation study. *International Journal of Geriatric Psychiatry*, 19, 1–12. doi: 10.1002/gps.1142.
- Droes, R. M., van Mierlo, L. D., van der Roest, H. G. and Meiland, F. J.** (2010). Focus and effectiveness of psychosocial interventions for people with dementia in institutional care settings from the perspective of coping with the disease. *Non-pharmacological therapies in dementia*, 1, 139–161.
- Ettema, T. P., Droes, R. M., de, L. J., Mellenbergh, G. J. and Ribbe, M. W.** (2007a). QUALIDEM: development and evaluation of a dementia specific quality of life instrument – validation. *International Journal of Geriatric Psychiatry*, 22, 424–430. doi: 10.1002/gps.1692.
- Ettema, T. P., Droes, R. M., de, L. J., Mellenbergh, G. J. and Ribbe, M. W.** (2007b). QUALIDEM: development and evaluation of a dementia specific quality of life instrument – scalability, reliability and internal structure. *International Journal of Geriatric Psychiatry*, 22, 549–556. doi: 10.1002/gps.1713.
- Feil, N.** (1992). Validation therapy. *Geriatric Nursing*, 13, 129–133.
- Finnema, E., Droes, R. M., Ribbe, M. and van Tilburg, W.** (2000). A review of psychosocial models in psychogeriatrics: implications for care and research. *Alzheimer Disease and Associated Disorders*, 14, 68–80.
- Finnema, E., Dröes, R. M., Ettema, T. P., Ooms, M. E., Adèr, H., Ribbe, M. W. and 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, 330–343. doi: 10.1002/gps.1286.
- Folstein, M. F., Folstein, S. E. and McHugh, P. R.** (1975). “Mini-mental state”: a practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12, 189–198. doi: 10.1016/0022-3956(75)90026-6.
- Ford, S., Fallowfield, L. and Lewis, S.** (1996). Doctor-patient interactions in oncology. *Social Sciences and Medicine*, 42, 1511–1519. doi: 10.1016/0277-9536(95)00265-0.
- Fritsch, T., Kwak, J., Grant, S., Lang, J., Montgomery, R. R. and Basting, A. D.** (2009). Impact of TimeSlips, a creative expression intervention program, on nursing residents with dementia and their caregivers. *The Gerontologist*, 49, 117–127. doi: 10.1093/geront/gnp008.
- Gibson, F.** (1994). What can reminiscence contribute to people with dementia? In Bornat J. (ed.), *Reminiscence Reviewed: Evaluations Achievements, Perspectives*. (pp. 46–60). Buckingham: Open University Press.
- Hopman-Rock, M., Staats, P. G., Tak, E. C. and Droes, R. M.** (1999). The effects of a psychomotor activation programme for use in groups of cognitively impaired people in homes for the elderly. *International Journal of Geriatric Psychiatry*, 14, 633–642. doi: 10.1002/(SICI)1099-1166(199908)14:8<633::AID-GPS996>3.0.CO;2-W.
- Lepp, M., Ringsberg, K. C., Holm, A. K. and Sellersjo, G.** (2003). Dementia – involving patients and their caregivers in a drama programme: the caregivers' experiences. *Journal of Clinical Nursing*, 12, 873–881. doi: 10.1046/j.1365-2702.2003.00801.x.
- Livingston, M. D., Johnston, K., Katona, C., Paton, J. and Lyketsos, C. G.** (2005). Systematic review of psychological approaches to the management of neuropsychiatric symptoms of dementia. *American Journal of Psychiatry*, 162, 1996–2021. doi: 10.1176/appi.ajp.162.11.1996.
- McCabe, B. W., Baun, M. M., Speich, D. and Agrawal, S.** (2002). Resident dog in the Alzheimer's special care unit. *Western Journal of Nursing Research*, 24, 684–696. doi: 10.1177/01939450232055421.
- Reisberg, B., Doody, R., Stoffer, A., Schmitt, F., Ferris, S. and Mobius, H. J.** (2003). Memantine in moderate-to-severe Alzheimer's disease. *The New England Journal of Medicine*, 348, 1333–1341. doi: 10.1056/NEJMoa013128
- Sandel, S. L. and Johnson, D. R.** (1987). *Waiting at the Gate: Creativity and Hope in the Nursing Home*. New York: The Haworth Press.
- Sloane, P. D. et al.** (2004). Effect of person-centered showering and the towel bath on bathing-associated aggression, agitation, and discomfort in nursing home residents with dementia: a randomized, controlled trial. *Journal of the American Geriatric Society*, 52, 1795–1804. doi: 10.1111/j.1532-5415.2004.52501.x.
- Tabourne, C. E.** (1995). The effects of a life review program on disorientation, social interaction and self-esteem of

- nursing home residents. *International Journal of Aging and Human Development*, 41, 251–266. doi: 10.2190/EG53-878E-MGRK-BCPP.
- Tol, F., Weert, J. C. M. van, Hermanns, S. S. T. and Dröes, R. M.** (2011). De Veder Methode: een nieuwe manier van communiceren tussen zorgverleners en mensen met geheugenproblemen in verpleeghuizen. In A. M. van Dijk, J. C. M. van Weert and R. M. Dröes (eds.), *Evaluatie van de Veder Methode; theater als contactmethode in de psychogeriatrische zorg* (pp. 17–69). Amsterdam: EMGO+, VU Medisch Centrum & Amsterdam School of Communication Research, Universiteit van Amsterdam.
- van der Zee, K. I. and Sanderman, R.** (1993). *Het meten van de gezondheidstoestand met de RAND-36: een handleiding*. Groningen: Noordelijk Centrum voor Gezondheidsvraagstukken.
- van Mierlo, L. D., van der Roest, H. G., Meiland, F. J. and Droes, R. M.** (2010). Personalized dementia care: proven effectiveness of psychosocial interventions in subgroups. *Ageing Research Reviews*, 9, 163–183. doi: 10.1016/j.arr.2009.09.002.
- van Weert, J. C., van Dulmen, A. M., Spreeuwenberg, P. M., Ribbe, M. W. and Bensing, J. M.** (2005a). Behavioral and mood effects of snoezelen integrated into 24-hour dementia care. *Journal of the American Geriatrics Society*, 53, 24–33. doi: 10.1111/j.1532-5415.2005.53006.x.
- van Weert, J. C., van Dulmen, A. M., Spreeuwenberg, P. M., Ribbe, M. W. and Bensing, J. M.** (2005b). Effects of snoezelen, integrated in 24 h dementia care, on nurse-patient communication during morning care. *Patient Education Counselling*, 58, 312–326. doi: 10.1016/j.pec.2004.07.013.
- van Weert, J. C., Janssen, B. M., van Dulmen, A. M., Spreeuwenberg, P. M., Bensing, J. M. and Ribbe, M. W.** (2006). Nursing assistants' behaviour during morning care: effects of the implementation of snoezelen, integrated in 24-hour dementia care. *Journal of Advanced Nursing*, 53, 656–668. doi: 10.1111/j.1365-2648.2006.03772.x.
- Vasse, E., Vernooij-Dassen, M., Spijker, A., Rikkert, M. O. and Koopmans, R.** (2010). A systematic review of communication strategies for people with dementia in residential and nursing homes. *International Psychogeriatrics*, 22, 189–200. doi: 10.1017/S1041610209990615.
- Vink, A. C., Birks, J. S., Bruinsma, M. S. and Scholten, R. J.** (2004). Music therapy for people with dementia. *Cochrane Database of Systematic Reviews*, CD003477. doi: 10.1002/14651858.CD003477.pub2.
- Wilkinson, N., Srikumar, S., Shaw, K. and Orrell, M.** (1998). Drama and movement therapy in dementia: a pilot study. *The Arts in Psychotherapy*, 25, 195–201.
- Woods, B., Spector, A., Jones, C., Orrell, M. and Davies, S.** (2005). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*, CD001120. doi: 10.1002/14651858.CD001120.pub2.
- Zuidema, S., Koopmans, R. and Verhey, F.** (2007). Prevalence and predictors of neuropsychiatric symptoms in cognitively impaired nursing home patients. *Journal of Geriatric Psychiatry and Neurology*, 20, 41–49. doi: 10.1177/0891988706292762.