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The Impact of Validation Group Therapy on Nursing Home Residents With Dementia

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This study examined the effectiveness of validation group therapy for reducing problem behaviors, use of physical restraints, and use of psychotropic medications, and for increasing positive social interactions and psychosocial well-being in nursing home residents with dementia. In four skilled-care nursing homes, 88 residents with dementia were randomly assigned to a group receiving validation therapy (VT), a social contact (SC) group, or a usual care (UC) control group, and were assessed at baseline, 3 months, and 1 year. The nursing staff reported that VT participants showed less physically and verbally aggressive behavior and were not as depressed as residents in the SC or UC group. VT was not effective, however, in reducing the use of physical restraints or the use of psychotropic medications, and it was less effective than SC or UC in reducing physically nonaggressive problem behaviors.

Validation therapy (VT) is a method for communicating both verbally and nonverbally with older people who suffer from Alzheimer's disease and

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related dementias (Feil, 1989). Although it can be used in many different settings, VT was originally designed to improve communication with nursing home residents suffering from moderate and severe dementing illnesses (Feil, 1993). Although VT is widely used in nursing homes in the United States and other Western countries, its effectiveness has not been evaluated rigorously. This article reports the results of a controlled study that examined the effectiveness of group VT for residents with moderate and severe dementia in four skilled-care nursing facilities.

Background

Nursing homes are the major receiving sites for the care of older adults suffering from dementia when family caregivers are overburdened or family resources are exhausted (National Center for Health Statistics, 1989; Rovner, Kafonek, Filipp, Lucas, & Folstein, 1986). Data from the National Nursing Home survey and regional surveys indicate that 40% to 70% of all residents of skilled-care nursing facilities have a dementing illness (National Center for Health Statistics, 1989; Rovner et al., 1986; Rovner et al., 1990; Rovner & Katz, 1993). Many of these residents also exhibit disturbances in behavior that require therapeutic intervention (Rovner et al., 1986; Zimmer, Watson, & Treat, 1984). By incorporating a variety of methods to improve verbal and nonverbal communication with nursing home residents suffering from dementia, VT has been proposed as one method for helping to reduce agitation and other behavioral problems (Feil, 1982, 1993).

Validation Therapy

The VT approach is rooted in the humanistic tradition of psychotherapy and draws on the developmental theory of Erik Erikson (1950) and the clinical work of Carl Rogers (1951, 1961). A basic tenet of VT is that the behavior of older adults who are demented, no matter how irrational or bizarre it may be, occurs for a reason. Physical changes in the brain and in the sensory systems of individuals suffering from dementing illnesses change the way they communicate and behave. Demented nursing home residents adapt to their illness by using whatever abilities remain intact. For example, when short-term memory is impaired, older adults with dementia use memories and feelings from the distant past to help them continue to communicate with others. Similarly, when language abilities are lost, older adults rely on repetitive vocalizations and motions and on affective responses to commu-

nicate. Thus coping strategies are thought to be tied to the progression of the dementing illness (Feil, 1982, 1993).

VT can be delivered one-on-one or in a group setting. VT consists of a number of verbal and nonverbal communication techniques specifically designed to stimulate communication and to tune in to and empathically validate the communications of an elderly person with dementia. According to Feil (1982, 1993), it is this empathic and unconditional regard (Rogers, 1951) that has a calming effect on the individual and results in an integration of the demented self. At the behavioral level, this calming effect manifests itself in reduced agitation, increases in communication, and reduced frequency of aggressive or withdrawn behavior (Feil, 1982, 1993).

Despite its widespread use in nursing homes and other congregate settings where older people with dementia are served, VT has received little attention from researchers. A review of the literature revealed only five studies of VT: Babins, Dillion, and Merovitz (1988); Fritz (1988); Peoples (1982); Robb, Stegman, and Wolanin (1986); and Scanland and Emershaw (1993). Three of these pioneering studies report increased communication and decreases in problem behaviors and mental deterioration among VT participants (Babins et al., 1988; Fritz, 1988; Peoples, 1982). Unfortunately, the reviewed studies suffered from many flaws, including very small sample sizes and uncontrolled research designs. Thus, although there is some indication that VT may have positive effects on nursing home residents, additional research is needed.

Given this state of affairs, the main objective of the present study was to examine rigorously the short- and long-term effectiveness of VT in comparison to a social contact (SC) group and a usual care (UC) control group. It was hypothesized that compared to usual care, VT and SC groups would show a significant reduction ($p < .05$) in problem behaviors, use of physical restraints and psychotropic medications, and significant increases in positive social interactions and psychosocial well-being at 3 months and 1 year. It was also hypothesized that participation in group VT would result in significantly greater changes ($p < .05$) in these behaviors than participation in SC groups over both time periods.

Method

Participants

Study participants were recruited through a multistage process. Using their clinical judgment and data from the minimum data set (MDS) and the

patients' medical records, the nursing staff in four skilled-care nursing homes identified all residents who had at least a moderate level of dementia and displayed problem behaviors such as physical aggression, verbally abusive behaviors, disruptive vocalizations, or motor restlessness. Through this process, 205 residents were identified, and consent was obtained by mail from the guardians of 126 individuals.¹

Each resident for whom consent had been obtained was screened by a member of the research team. The screening interview consisted of the Short Portable Mental Status Questionnaire (SPMSQ) and the Validation Screening Instrument (VSI). Based on this screening interview, 38 residents were disqualified from the study. Thirty-three residents were ruled out because of very low scores on the screening instruments; that is, residents who made more than 8 errors on the SPMSQ and failed to answer more than 50% of the questions on the VSI correctly were excluded because of the severity of their dementia. For 2 residents, it was found that their medical records did not indicate a clear diagnosis of dementia. Two residents who were eligible for participation were discharged before the groups began, and 1 eligible resident refused to attend groups. Thus baseline data were collected for a total of 88 residents.

Over the course of the year-long study, a total of 22 residents were lost to follow-up. Of these 22 residents, 18 died, 2 residents had to drop out because of deteriorating health, and 2 residents refused to continue, resulting in a sample of 66 residents. Attrition did not differ significantly across groups (VT, 8 residents; SC, 8 residents; UC, 6 residents). Table 1 presents a description of the study sample at baseline.

The typical participant was a White female, on average 88 years old, who had resided in the nursing home for more than 2 years. No significant differences were found among residents in the three treatment conditions with regard to any of the sociodemographic variables or any of the other baseline measures. Also, participants who dropped out of the study did not differ significantly from residents who completed the study on any of the sociodemographic variables, on their SPMSQ and VSI scores, or on any of the scales on the Multidimensional Observation Scale for Elderly Subjects (MOSES).

Setting

The study was conducted in four skilled-care nursing homes. Information with regard to the basic characteristics of the four nursing homes is presented in Table 2. The average staff/resident ratio in the four long-term care facilities was 1:6.7, ranging from 1:5.5 to 1:7.3. The average annual staff turnover was

Table 1. Selected Characteristics of Study Participants (N = 88)

Variable	Validation Therapy (n = 31)		Social Contact (n = 29)		Usual Care (n = 28)	
	N	%	N	%	N	%
Gender						
Female	27	86	20	69	19	68
Male	4	14	9	31	9	32
Ethnicity						
African American	2	6	1	3	1	4
Caucasian	29	94	28	97	27	96
	Mean	SD	Mean	SD	Mean	SD
Age	87.79	5.95	87.29	6.12	87.78	7.56
Length of stay in facility (months)	27.03	26.36	27.79	25.67	21.41	28.05
Errors on SPMSQ ^a	7.43	2.10	7.46	2.79	7.15	3.01
Number of problem behaviors over 10-day period	1.03	1.46	0.91	1.49	0.85	1.34
Need for ADL assistance	20.41	6.66	21.21	7.43	21.74	6.89

a. SPMSQ = Short Portable Mental Status Questionnaire.

46.1%. The nursing staff in each facility was also asked to assess the quality of the care environment using the Sheltered Care Environment Scale (SCES; Lemke & Moos, 1987). The responses at each of the four homes were compared using multivariate analysis of variance (MANOVA). No significant differences were found among the four nursing homes on any of the seven SCES subscales, suggesting that although staff turnover among homes ranged from 25.0% to 66.7%, the four homes were comparable with regard to their care environment.

Design

A single-blind study design was used to examine the study hypotheses. Within each participating nursing home, residents were randomly assigned to a VT group, SC group, or UC group. This resulted in a total of 31 participants in VT, 29 in SC, and 28 in UC. There was one VT and one SC group in each nursing home. VT and SC groups, which varied in size from 6 to 9 participants, met for four, 30-minute sessions each week for a total of 52 weeks. VT and SC groups were conducted by specially trained group leaders, who were not involved in collecting any data.

Table 2. Selected Characteristics of Participating Nursing Homes

Variable			Home 1	Home 2	Home 3	Home 4		
Participants (N = 88)			19	26	22	21		
Number of skilled care beds			120	200	420	276		
Staff/resident ratio			1:5.5	1:7.1	1:7.3	1:6.9		
Average annual staff turnover			59.0%	66.7%	33.7%	25.0%		
<i>Sheltered Care Environment Scale^a</i>								
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Cohesion	5.44	1.81	6.45	1.97	5.57	1.60	5.80	1.32
Conflict	4.82	1.25	5.00	1.28	4.70	1.23	4.25	1.38
Independence	7.00	1.49	5.58	1.78	5.62	2.01	6.85	1.62
Self-exploration	4.20	1.69	4.64	1.75	3.95	1.46	4.27	1.39
Organization	6.29	1.25	6.36	1.43	5.90	1.53	6.12	1.53
Resident influence	5.56	1.24	4.00	1.41	4.80	1.84	5.71	1.50
Physical comfort	6.27	0.90	5.80	1.62	5.90	1.32	5.61	1.21

a. Lemke and Moos (1987).

To keep nonparticipating observers and the nursing staff blind to the intervention condition to which residents were assigned, observers and the nursing staff were not informed about the study hypotheses, and VT and SC meetings were not conducted on the residential units. Residents are often taken off the floor for various social and recreational programs, hence residents leaving the unit for VT or SC meetings would not unduly raise the interest or attention of nurses. Still, a special effort was made by project staff to ensure that the nursing staff was not informed when residents were taken off the floor to VT or SC meetings, and a check at the end of the study revealed that the nursing staff was unaware of the intervention condition to which participants had been assigned. As part of the informed consent, participants and their guardians had been informed that they had an equal possibility of being selected for one of the three treatment conditions.

Intervention Conditions

Validation Group Therapy

VT is a multicomponent intervention strategy, developed to encourage residents with dementia to continue communicating by using memory fragments and any other aspects of their cognitive, affective, and motoric func-

tioning that remain intact (Feil, 1982, 1993). Group validation is highly interactive and relatively structured. Meetings are divided into four 5- to 10-minute segments. During the beginning of the session, an effort is made to stimulate members by fostering warm greetings, holding hands, and singing a song. Next, the leader encourages members to interact by bringing up and helping members to focus on a topic of interest. To stimulate and foster communication, reminiscing about past events related to the topic is encouraged. The third segment of the meeting often focuses on a program activity, such as a sing-along or poetry reading. The fourth segment of the meeting includes passing out refreshments, closing the group by saying goodbye to each member individually, and thanking each member for coming. During meetings, a variety of VT techniques are used, including (a) the use of nonthreatening, simple, concrete words; (b) speaking in a clear, low, empathic tone of voice; (c) rephrasing and paraphrasing unclear verbal communications; (d) responding to the meanings explicit and implicit in verbal and nonverbal communications; and (e) mirroring verbal and nonverbal communications. The techniques, which are described in detail by Feil (1993), are all designed to help stimulate members' communication with each other, and with the leader.

VT was delivered by four trained validation therapists, one in each home, all of whom had bachelor's degrees and previous experience in working with nursing home residents with dementia. VT group leaders were given 4 days of didactic and role-play training by Naomi Feil, the originator of VT, and by the project director. Over the course of the intervention, the leaders were given weekly telephone, and monthly in-person, supervision by the project director. Every month, the project director also reviewed a random selection of tapes from intervention sessions and addressed any threats to the integrity of the treatment with the group leaders.

Social Contact Group

To rule out the possibility that any improvements observed in VT participants were due simply to the attention that these residents received during the VT group sessions, a social contact condition was developed and implemented. Four SC group leaders, also with bachelor's degrees and previous experience in working with nursing home residents, were hired to deliver the intervention. To standardize SC groups across nursing homes, the four SC leaders were trained in conducting group activities that were specifically designed for residents with dementia. Group leaders were instructed to conduct one activity each meeting, following a manual that contained 54 activities in the eight categories of music, art, literature and writing,

dance/exercise, games/trivia, holiday and event planning, discussion, and other activities.²

Social contact group leaders were not trained in the use of VT and were not informed about the content of the other group intervention. Like their validation group counterparts, SC group leaders were given weekly telephone and monthly in-person supervision by the project director. Tapes of their sessions were also reviewed every month to ensure treatment integrity.

Usual Care Group

All study participants, including those in the UC condition, continued to participate in regular social and recreational programming offered by each nursing facility. Data were collected at baseline, 3 months, and 1 year from UC participants, but they did not participate in VT or SC groups.

Measures

Following the recommendations of a critic of caregiving intervention studies (Zarit, 1989), a multimethod approach to the evaluation of intervention outcomes was adopted using data from different independent sources. Measures for screening participants, baseline assessment, and outcomes at 3 months and at 1 year are described.

Screening Measures

Diagnosis of dementia. Only nursing home residents with an unambiguous diagnosis of dementia were included in the study. Diagnoses of dementia were abstracted from patients' medical records and cross-validated with their most recent entry in the Minimum Data Set (MDS+).

Short Portable Mental Status Questionnaire. This 10-item questionnaire assesses the mental status of an elderly person. It is administered in an interview format and respondents are categorized as cognitively intact (0-2 errors), mildly impaired (3-4 errors), moderately impaired (5-7 errors), and severely intellectually impaired (8-10 errors). The SPMSQ has excellent test-retest reliability ($r < .80$), and criterion validity has been established (Kane & Kane, 1981; Pfeiffer, 1975).

Validation Screening Instrument. The VSI was developed for this study following the suggestions by Feil (1982), who argues that not every older

adult with dementia may be suited for validation treatment. For example, Feil's clinical experience with VT has led her to the conclusion that individuals with a history of mental illness, mental retardation, alcoholism, or very severe dementia are not suited for this treatment approach.

Building on questions described by Feil (1982, p. 113), a screening instrument was developed. This questionnaire contains 36 questions—24 questions are answered by the nursing home staff and 12 by the resident. Questions address resident history, level of orientation, ability to communicate, and remaining memories. Residents were excluded from the study if staff responses indicated that there was a history of mental illness, mental retardation, or alcoholism. Residents were also excluded if they were not able to respond to more than 50% of the questions. The VSI was administered in interview form by project staff.

Baseline Measures

Short Personal Data Form (SPDF). An SPDF was used to gather information from the MDS+ and other patient records on residents' age, gender, ethnicity, length of stay in the facility, mental status, incidence of problem behaviors, and need for assistance with activities of daily living (ADL). Self-performance on eight ADL activities from Section H of the MDS+ were rated on 4-point scales ranging from 0 = *independent* (no help provided), to 4 = *total dependence*.

Sheltered Care Environment Scale—Reality Version. The SCES-R is a 63-item questionnaire that measures staff members' perceptions about the social environment of the nursing home on seven dimensions: cohesion, conflict, independence, self-exploration, organization, resident influence, and physical comfort. SCES subscales have high internal consistency and split-half reliability (Lemke & Moos, 1987), and good construct validity (Lemke & Moos, 1990; Smith & Whitbourne, 1990a, 1990b).

Outcome Measures

Data were collected within 2 weeks prior to intervention (i.e., baseline assessment), and then again at 3 and 12 months. Several data sources were used, including medical records, nonparticipant observers, and the nursing staff. As mentioned previously, nonparticipant observers and the nursing staff were kept blind with regard to the intervention condition to which study participants were assigned.

Multidimensional Observation Scale for Elderly Subjects. The 24-item form of the MOSES (Pruchno, Kleban, & Resch, 1988) was used to assess study participants' psychosocial functioning. Like the long version, the short-form MOSES has five scales: self-care, disorientation, depression, irritability, and withdrawal. Internal consistency reliabilities for the scales average .80, interrater reliabilities range from .58 for the Depression scale to .97 for the Self-Care scale, and the concurrent validity of the scales has been established (Helmes, Csapo, & Short, 1987; Pruchno et al., 1988). The MOSES was administered by research assistants in interview format.

Cohen-Mansfield Agitation Inventory (CMAI). The CMAI is a 30-item instrument that is used to measure agitated behavior of elderly people in institutional settings. The 30 items encompass three categories of behavior: aggressive behavior, physically nonaggressive behavior, and verbally agitated behavior (Cohen-Mansfield, Marx, & Rosenthal, 1989). The CMAI has good interrater reliability ($r = .88$) (Cohen-Mansfield, 1986; Cohen-Mansfield et al., 1989).

The CMAI was used by nonparticipant observers and by the nursing staff; thus, in the remainder of this article, the observer-derived score is referred to as the CMAI-O, and the nursing staff-derived score is referred to as the CMAI-N. Two nonparticipant observers, who were graduate students, were trained to use the CMAI-O by rating videotaped segments of nursing home residents with dementia and problem behaviors. Counterbalanced time-sampling observations were made by one nonparticipant observer on 4 study participants for a 3-hour period, and by a second observer for a 2-hour period, with 1 hour of overlap so that interobserver reliability could be calculated. Overall, each study participant was observed for a total of 40 minutes in 10-minute intervals with 5-minute rest periods between observations. Interrater reliability on the CMAI-O ranged from $r = .81$ to $r = .96$.

The nursing staff on all three shifts was instructed about how to complete the CMAI-N and asked to record all problematic behaviors that occurred for 10 consecutive weekdays. Recorded observations were monitored on a daily basis by project staff. The project staff was also available to answer any questions about how to record behaviors. In addition to recording the frequency of residents' problem behaviors, nurses were also asked to record the duration of the behavior and whether their intervention was successful.

Geriatric Indices of Positive Behavior (GIPB). The GIPB is a 23-item instrument that measures the occurrence of verbal, nonverbal, and noninteractive, positive behaviors through unobtrusive behavioral observation. The

GIPB was developed for this study from behavioral observations of people with dementia and from the available literature on communication with people with dementia. All interactions with staff, other residents, or visitors were recorded concurrently and in the same manner as CMAI-O data. The GIPB yields a summary score for the number of verbal, nonverbal, and noninteractive, positive behaviors. Good interrater reliability ($\kappa = .80$; Cohen, 1960) was established for the GIPB.

Minimum Data Set—Resident Assessment Protocol. The MDS+ is a 105-item instrument that is used for resident assessment and care screening (Morris et al., 1990). All nursing facilities in the United States are mandated by the Omnibus Budget Reconciliation Act of 1987 to complete and regularly update an MDS+ on each resident. Data from the MDS+ were abstracted by a trained coder for the following variables: (a) number of medications received in the prior week, (b) number of days in the prior week the resident received antipsychotic medications, (c) number of days in the prior week the resident received antianxiety medications, (d) number of days in the prior week the resident received antidepressants, and (e) how often in the prior week the resident was mechanically restrained.

Data Analyses

To test the previously stated hypotheses, 3 (Treatment Conditions: VT, SC, UC) \times 3 (Times of Measurement: baseline, 3 months, 1 year) repeated measures of MANOVA were used to analyze the data. Condition \times Time effects were of particular interest because they reveal the differential impact of the intervention conditions over time. To examine the source of the effect, significant multivariate effects were followed by univariate analyses of variance and post hoc mean comparisons using Tukey's HSD method (Glass & Hopkins, 1984).

Examination of the assumptions underlying the application of MANOVA revealed that the distributions of the CMAI-O, CMAI-N, and the GIPB were highly skewed. Transformations of these data were performed but failed to result in univariate distributions with satisfactory properties for the use of MANOVA. Thus the distribution-free Kruskal-Wallis test (Siegel, 1956) was chosen as an appropriate test for data that did not meet the assumptions of analysis of variance. For this purpose, each subject's outcome was summarized with a single summary statistic according to the procedure recommended by Dawson and Lagakos (1991, 1993). To assess changes over time, a summary statistic was calculated for each person's score from baseline to

3 months and from baseline to 1 year on the CMAI-O, CMAI-N, and the GIPB. To assess changes among conditions, single degree of freedom follow-up analyses comparing VT to SC and UC, and comparing VT and SC to UC, were also performed.

Results

Changes in Residents' Functioning as Assessed by the MOSES

Results from the MANOVA of the MOSES data revealed a significant main effect of time, Wilks's $\lambda = .03$, $F(15, 486) = 83.04$, $p < .001$, and a significant Condition \times Time interaction, Wilks's $\lambda = .79$, $F(30, 706) = 1.41$, $p < .05$. Univariate follow-up analyses presented in Table 3 revealed that the significant multivariate main effect of time was due to changes on the Self-Care and Disorientation scales. A comparison of the means presented in Table 3, using Tukey's HSD method, revealed that participants in all conditions showed significant ($p < .05$) declines in self-care from baseline to 3 months. Tukey's HSD method also revealed that there was a significant ($p < .05$) increase in disorientation from baseline to 1 year. The means presented in Table 3 suggest that this effect was due to increases in disorientation for VT and SC participants.

Table 3 also reveals that the multivariate Condition \times Time interaction for the MOSES was due to the depression subscale. A comparison of the means presented in Table 3 using Tukey's HSD test revealed no significant change in depression scores of residents who participated in VT over the course of the study. However, residents who participated in SC were found to be significantly ($p < .05$) more depressed at the 1-year assessment compared to the baseline assessment. No statistically significant differences were found over time among the participants in the different treatment conditions on any of the other MOSES scales.

Changes on the Cohen-Mansfield Agitation Inventory

Findings with regard to residents' problem behaviors as assessed by the CMAI-N and the CMAI-O are presented in Table 4. As can be seen from the mean ranks data presented in Table 5, the nursing staff reported a significant change in physically aggressive behaviors on the CMAI-N from baseline to 3 months, and from baseline to 1 year.

Table 3. Univariate Analyses of MOSES Subscales

Variable	Time of Measurement						F Ratios		
	Baseline		3 Months		1 Year		Condition	Time	Condition \times Time
	Mean	SD	Mean	SD	Mean	SD			
Self-care									
Validation	16.54 ^a	2.94	15.91 ^a	3.87	16.52	3.86	0.12	5.59***	0.69
Social contact	16.09 ^a	4.50	15.86 ^a	4.43	16.68	3.39			
Usual care	15.70 ^a	4.08	14.83 ^a	4.85	16.77	3.05			
Disorientation									
Validation	15.68 ^a	4.37	15.86	4.37	17.90 ^a	5.28	0.70	6.38***	1.63
Social contact	16.09 ^a	4.32	17.45	5.34	17.43 ^a	6.00			
Usual care	17.91 ^a	5.31	19.00 ^a	5.51	17.09	6.19			
Depression									
Validation	10.64	5.15	9.55	3.75	9.19	3.30	2.81	0.63	2.16*
Social contact	7.73 ^a	2.59	8.50	3.17	10.29 ^a	5.97			
Usual care	8.78	3.50	9.65	4.09	8.18	4.52			
Imitation									
Validation	5.36	2.28	5.00	2.37	4.81	2.40	0.13	1.09	1.55
Social contact	5.64	3.43	4.73	2.53	6.10	3.40			
Usual care	5.22	2.33	5.61	2.66	5.36	2.52			
Withdrawal									
Validation	14.05	4.09	13.86	4.21	13.95	4.16	0.90	0.75	1.40
Social contact	13.05	4.09	12.68	3.73	13.67	4.27			
Usual care	14.43	4.19	14.91	4.32	14.91	3.75			

NOTE: MOSES = Multidimensional Observation Scale for Elderly Subjects.

a. Means with the same superscript are significantly different at $p < .05$ based on Tukey's HSD method.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4. Changes in Problem Behaviors

Variable	χ^2	df	p Value
<i>Baseline to 3 months</i>			
CMAI-N			
Physically aggressive	10.7916	2	.005
Verbally aggressive	3.4206	2	.184
Physically nonaggressive	0.3878	2	.815
Duration of intervention	0.3074	2	.861
Success of nurses' interventions	9.3467	2	.009
CMAI-O			
Physically aggressive	2.2604	2	.303
Verbally aggressive	11.7946	2	.003
Physically nonaggressive	0.2752	2	.895
<i>Baseline to 1 year</i>			
CMAI-N			
Physically aggressive	14.9036	2	.001
Verbally aggressive	5.8844	2	.053
Physically nonaggressive	6.7602	2	.034
Duration of intervention	3.7214	2	.158
Success of nurses' interventions	6.8332	2	.032
CMAI-O			
Physically aggressive	1.4123	2	.590
Verbally aggressive	12.4648	2	.002
Physically nonaggressive	1.5212	2	.473

NOTE: CMAI-N = Nurse-derived Cohen-Mansfield Agitation Inventory score; CMAI-O = Observer-derived Cohen-Mansfield Agitation Inventory score.

Follow-up analyses of differences among conditions revealed that compared to participants in the SC and UC groups, residents who participated in VT showed a significant reduction in physically aggressive behaviors both at 3 months, $\chi^2(1, n = 81) = 11.96, p < .001$, and at 1 year, $\chi^2(1, n = 66) = 13.77, p < .001$.

As indicated in Table 4, the nursing staff also reported a significant change in verbally aggressive problem behaviors at 1 year. Follow-up analyses of the mean ranks (see Table 5) revealed that compared to residents in UC, verbally aggressive behaviors were significantly reduced for residents in VT and SC, $\chi^2(1, n = 66) = 6.82, p < .01$. No significant differences were found between the verbally aggressive behaviors of VT and SC residents.

Table 4 also reveals that the nurses reported a significant change in physically nonaggressive problem behaviors at 1 year. Contrary to our hypothesis, follow-up analyses revealed that physically nonaggressive prob-

Table 5. Mean Ranks for Scales of the Nurse-Derived Cohen-Mansfield Agitation Inventory (CMAI-N), and the Observer-Derived Cohen-Mansfield Agitation Inventory (CMAI-O)

Scale	Time	Validation Therapy	Social Contact	Usual Care
CMAI-N				
Physically aggressive	Baseline to 3 months	364.69	385.63	404.28
	Baseline to 1 year	559.23	600.34	617.50
Verbally aggressive	Baseline to 3 months	377.24	376.89	399.68
	Baseline to 1 year	579.87	576.93	617.36
Physically nonaggressive	Baseline to 3 months	384.00	380.19	387.07
	Baseline to 1 year	612.53	584.97	572.74
Duration of intervention	Baseline to 3 months	133.12	131.11	138.69
	Baseline to 1 year	145.97	124.47	132.28
Success of nurses' interventions	Baseline to 3 months	170.86	143.54	139.80
	Baseline to 1 year	170.48	172.34	142.52
CMAI-O				
Physically aggressive	Baseline to 3 months	43.65	39.32	39.56
	Baseline to 1 year	43.07	38.12	41.38
Verbally aggressive	Baseline to 3 months	48.35	31.80	41.37
	Baseline to 1 year	47.50	29.72	44.35
Physically nonaggressive	Baseline to 3 months	39.72	42.68	40.87
	Baseline to 1 year	38.00	45.22	40.40

lem behaviors were reduced for residents who participated in SC and UC, $\chi^2(1, n = 66) = 6.20, p < .01$, but not for VT participants (see Table 5).

As can be seen in Table 4, significant changes were also found in the nursing staff's perceptions of the success of their efforts to intervene with the problem behaviors at 3 months and 1 year. Follow-up analyses revealed a significant effect for VT participants at 3 months, $\chi^2(1, n = 81) = 5.29, p < .05$, and for VT and SC participants at 1 year $\chi^2(1, n = 66) = 6.83, p < .05$ (see Table 5). No significant changes were found in the amount of time required for the nursing staff's responding to residents' problem behaviors in any of the three conditions over time.

Table 4 reveals that the nonparticipant observers reported a significant change in verbally aggressive behavior among the three conditions at 3 months and at 1 year. Contrary to our hypotheses, follow-up analyses of the mean rank differences among the three conditions revealed that compared to participants in the VT and UC groups, participants in SC groups displayed significantly lower scores in verbally aggressive behaviors both at 3 months, $\chi^2(1, n = 81) = 4.67, p < .05$, and at 1 year, $\chi^2(1, n = 66) = 8.02, p < .01$ (see

Table 5). Analyses of data from the GIPB, also gathered by the nonparticipant observers, revealed no significant changes in positive social interactions with family, staff, or other residents.

Changes in Resident Functioning as Assessed by the MDS+

Multivariate analyses of the data abstracted from the MDS+ revealed no significant differences among residents in the three intervention conditions with regard to use of antipsychotic, antianxiety, or antidepressant medications, and no change in the overall medication use. Also, there were no changes in frequency of restraint use among residents in the three intervention conditions.

Discussion

The results of this study provide limited support for the effectiveness of group VT for nursing home residents with dementia. The most positive finding was that the nursing staff reported reduced physically and verbally aggressive behavior in residents who received VT. They also reported an improvement in their own success when intervening to reduce the problem behaviors of residents who were participating in VT. Although the nursing staff reported reductions on the CMAI-N in physically and verbally aggressive behavior, the nonparticipant observers did not find similar reductions. Thus the results provide only one source of data—nursing observations—to support the hypothesis about the effectiveness of VT on problem behaviors.

The results offer only limited support for the hypothesis about the effectiveness of VT on residents' psychosocial well-being. The nursing staff reported a significant increase in depression scores of residents who participated in SC, but no increased symptoms of depression in residents who participated in VT. Although this finding could be interpreted to mean that participation in VT prevents depressive symptoms from occurring, a significant difference was found only between residents who participated in VT and SC. No significant difference was found in the depression scores of residents who participated in VT and UC. Also, no differences were reported by the nursing staff on any of the other MOSES subscales measuring aspects of psychosocial well-being.

The results do not support the hypotheses that participation in VT reduces the use of psychotropic medications, physical restraints, or nursing time

devoted to intervening in problem behaviors. No significant changes were observed in these variables among residents in any of the three conditions.

It is noteworthy that changes observed by the nursing staff in the behavior of VT residents were not verified by the nonparticipant observers. There are several plausible explanations for this result. The nursing staff may have observed behavior changes during times of the day when behavioral observations were not made. Also, since the nonparticipant observers recorded residents' behavior on the ward, or in their room when the door was open, they may not have observed behavior changes during bathing, dressing, toileting, or other nursing activities, when physically and verbally aggressive behaviors are more likely to occur (O'Leary, Haley, & Paul, 1993). The discrepancy may also be the result of differences in the way the nursing staff and the nonparticipant observers perceived the behavior of residents. Nursing staff members may have a different perception than the nonparticipant observers because of their roles and responsibilities with residents, and the extent and duration of their exposure to the behavior of the residents of a particular unit of a nursing home. Additional research is needed about the similarities and differences in the perspectives of nonparticipant observers and the nursing staff, and the best time to observe resident behavior.

The positive effects observed for residents who participated in the SC condition are also noteworthy. According to the reports by the nursing staff, SC was effective in reducing the verbally aggressive behavior of residents, and, unlike VT, this effect was also reported by the nonparticipant observers. Although the nursing staff did not report SC to be as effective as VT in reducing physically aggressive behaviors, SC reduced physically nonaggressive problem behaviors such as wandering, pacing, and repetitive mannerisms, whereas VT had no effect on these behaviors. Although the SC condition was originally conceptualized as a way to control for any possible effects of attention, clearly the activities in SC had an impact on some of the outcome measures. The findings of this research lend support to the growing body of literature about the effectiveness of activity programs for nursing home residents with dementia (Fitzgerald-Cloutier, 1993; Greone, 1993; Lilley & Jackson, 1993; Stones & Dawe, 1993).

Overall, the finding that the nursing staff reported VT to be more effective than SC or UC in reducing residents' problem behaviors is consistent with the positive findings of the few previous, uncontrolled studies of VT reported in the literature. The positive effects reported by the nursing staff may also explain, at least in part, the widespread popularity of VT among nursing and social service staffs in the U.S. and other Western countries. The fact that the

nursing staff's report of changes in residents' behavior were not confirmed by the nonparticipant observers or by MDS+ data, however, suggests that additional research is needed. Additional research also appears to be warranted because of the widespread popularity of VT among clinicians, and the lack of controlled studies supporting its effectiveness.

Notes

1. The residents were not mentally able to give consent on their own.
2. The manual that describes each activity can be obtained from the Ringel Institute of Gerontology, University at Albany, State University of New York, 135 Western Avenue, Albany, NY 12222.

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Overcoming Elders' Misconceptions About Accurate Written Medical Information

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The authors investigated long-term memory for true written information about osteoarthritis that disconfirms the reader's erroneous prior beliefs. Independent variables included information type (text affirms the reader's correct belief or disconfirms the reader's erroneous belief), signaling (disconfirming information either signaled or not signaled in the text), and belief repetition (target beliefs either assessed or not assessed immediately after reading the passages). The relation between the reader's attitudinal flexibility and long-term memory was also examined. Participants were 85 adults (65-80 years old) who self-reported having osteoarthritis for at least 2 years. The authors found (a) disconfirming information was less accurately recognized and recalled than affirming information, (b) repetition of beliefs enhanced accurate recognition of disconfirming information and interacted with signaling to increase revision of misconceptions, and (c) attitudinal flexibility was significantly ($p < .05$) correlated with both accurate recognition of disconfirming information ($r = .32$) and revision of misconceptions ($r = .26$).

The primary source of health information for older people is printed matter (Connell & Crawford, 1988). Because older people often view medical information as contradictory (Office of Disease Prevention and Health Promotion, 1984), they may reject veridical written information that contradicts their own beliefs or schema. Skelton and Croyle (1991) identified understanding the means by which misconceptions about diseases may be changed as a critical topic for research in health psychology. People have implicit

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