Effects of Continuous Activity Programming on Behavioral Symptoms of Dementia

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Objectives: To describe the effect of continuous activity programming on behavioral symptoms of dementia.

Design: Observational study based on quality improvement data.

Setting: Two Dementia Special Care Units in different locations.

Participants: Ninety veterans with dementia provided with long-tem care.

Intervention: Continuous activity programming.

Measurements: Data were extracted from the MDS files and obtained by questionnaires filled out by staff members not involved in activity programming.

Results: Two settings of continuous activity programming, requiring no additional staffing, resulted in increased number of hours residents were involved in activities, decreased use of psychotropic medications, improved nutrition, and increased family satisfaction without additional staff. When additional staff was available, more intensive continuous activity programming further decreased agitation and improved sleep.

Conclusion: Continuous activity programming may be instituted without staffing change but the benefit is increased if additional staffing is available. **(J Am Med Dir Assoc 2006; 7: 426–431)**

Keywords: Dementia; activities; behavior

Behavioral symptoms of dementia are often more distressing than cognitive and functional impairment for both individuals with dementia and their caregivers. Behavioral symptoms are one of the main reasons for institutionalization[1] and are very common in residents with dementia in nursing homes. Cohen-Mansfield[2] reported that 2 agitated behaviors occurred at least once a week in 87% of nursing home residents with dementia and Ryden et al[3] found "aggressive behavior" to be present in 86%. In probability samples drawn from all nursing home residents (not only those with dementia), estimates of the prevalence of disruptive behaviors ranged from 26% to 64%.[4,5]

It is possible to distinguish 2 types of behavioral symptoms of dementia. Some symptoms are invoked by either physical or environmental causes, or by interpersonal interaction. Symptoms caused by personal interaction are often called "aggression"[6] but in most cases are a result of escalation of resistiveness to care[7] that is caused by misperception of the need for care activity or misperception of caregiver's intent. Invoked symptoms are best managed by elimination of physical or environmental causes and by modification of care strategies.[8]

Uninvoked symptoms include apathy and agitation.[9] The term "agitation" should only be used to describe behaviors that communicate to others that the individual with dementia is experiencing an unpleasant state of excitement. These behaviors are not invoked by caregiving activities, are unrelated to physical needs of the resident that can be remedied, and are without known motivational intent.[10] Both apathy and agitation are often a result of the inability of the individual with dementia to initiate meaningful activities. Therefore, providing meaningful activities is an important strategy for preventing both apathy and agitation and improving residents' quality of life. However, activity programs are very often limited to relatively short periods of time, leaving residents unoccupied for significant amounts of time.[11]

The desirability of increasing the amount of time residents are involved in activities is generally recognized with continuous activity programming as the ultimate goal. However, the number of provided activities is usually limited by low staffing ratio of activity professionals to residents and traditional activity schedules that leave residents with no activity involvement between scheduled activities. Typical activity programs involve the activity staff gathering the majority of residents

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and then leading the activity. Activities for nursing home residents with dementia usually last for 30 to 45 minutes. The activity staff then leaves the area and the residents wander, sleep, become agitated, and may have undesirable interaction with other residents.

Historically, involvement of staff from other disciplines is usually limited and often resisted by these individuals as well as by management. Therefore, it is important to describe the feasibility of continuous activity programming and to document effects of increased activity programming to justify involvement of additional resources and "out-of-the-box thinking." This article describes establishment of 3 continuous activity programs and beneficial effects that were observed.

METHODS

Continuous Activity Programming

The most important principle of this approach is that the residents are never left alone when in the main activity area. Because nursing home residents with dementia seldom if ever initiate meaningful activities themselves, it is important that they are always in the presence of a staff person who is engaging them in meaningful activities according to their abilities. This can be a structured activity like exercise or unstructured activity like casual conversation. The second important principle is that the programming is provided not only by the activity staff but also by staff from other disciplines. It is especially important to involve nursing assistants who predominantly provide most of the activities of daily living care. Nursing assistants are educated so they understand how to make the time with the resident fun and interesting instead of just accomplishing a task. Self-care tasks are made even more meaningful by involving residents in all care procedures as much as possible, by having conversation during the activity, and by providing the activity in a familiar setting, eg, doing grooming and oral care in a "barbershop" instead of in the room (see the next section).

"The Club" in Vermont State Nursing Home

A continuous activity program was developed on a dementia unit by a consultant (J.S.). This program included 28 residents, 62 to 91 years old (mean 77.3 years), who were institutionalized for 1 to 180 months (mean 53.1 months) and had wide range cognitive impairment severity (Mini-mental State Examination[12] (MMSE) scores 0–19 with a mean of 5.6). The program established responsibilities for both activity staff and nursing assistants. Activity staff was responsible for gathering supplies before the start of the day so they would not have to leave the area for supplies thereby leaving the residents unengaged. They led the majority of programs during the day, developed the monthly calendar, and evaluated and revised the program as the interest and needs of residents changed. Nursing assistants were responsible for accompanying residents to the activity room ("The Club"), providing breaks for activity staff, leading some programs and assisting with snacks. They continued to toilet residents every 2 hours or as needed and made sure the residents were clean prior to taking them to The Club. There was no increase in staffing for this program, just a change in the way activities were scheduled. The amount of time the residents were engaged in activities increased because programs were scheduled on a continuous basis with one program leading to the next program and because other staff was making sure the residents were taken to The Club so the activity staff person did not have to gather residents.

All staff, including licensed staff, nursing assistants, social work, activities, housekeeping, and rehabilitation received intensive education from the consultant including overview of Alzheimer's disease, typical behaviors, effective approaches to behavior management, communication strategies, and family issues. This education included team-building exercises that explored what makes staff members feel good about their jobs, provided staff empowerment, and discussed quality of life for their residents with suggestions on how to make it happen for their residents. Team members were asked to suggest what kind of an activity program they would be comfortable leading. The education included all 3 shifts and concluded with development of a mission statement that was written in staff's words, signed by all staff and posted on the unit.

The program of continuous activities was named "The Club" to give it a familiar term to these military men who usually belonged to a military club on the base and joined military organizations when they left the service. Women in "The Club" were able to relate to church and other social organizations they belonged to before their admission to the nursing facility. The daily routine was adapted to the resident population that consisted mostly of former military individuals and gave structure to the day. The residents ate breakfast in the dining areas before being taken to meet with their friends in "The Club." The day started with a "roll call" that was simply each person being acknowledged by name and asked a simple question, for instance, "How are you today?" After most residents were in the room, one resident was asked to read the date circled on the day's newspaper. This was called the "morning report." Residents looked out the window and discussed the weather and plans for the day. This activity usually took place as they sat around tables. The next activity was some type of exercise program that had the residents move from the table into a circle. In continuous programming the process is as important as the program so asking residents to help move chairs and getting them to go from one area to the next was part of the schedule. During the moving process, the activity professional was asking questions, thanking the residents for their help and carrying on conversation. After the physical exercise a beverage was served to continue their hydration program. One nursing assistant was assigned to help with this activity. Again, the staff carried on conversation and often the residents were asked to make a "toast" to their fellow members of The Club. Each morning one "special program" was scheduled. One day might be a craft, another day a music program. This was to meet the varied interests of the residents. The morning ended by staff thanking the residents for coming to The Club and then announcing lunch. Marching music was played in the corridor and all residents who were able to ambulate were "marched to dine." All staff assisted residents who needed some help with ambulation or pushed

wheelchairs. The activity staff documented residents' participation.

After lunch many residents went to their rooms for a rest, others took a "snooze" in the club area listening to music or did an individual activity, like sorting or puzzles, with the activity staff. This rest time was followed by another exercise, usually a game such as bowling or basketball, followed by a beverage and refreshments. Each afternoon, a "special program" was planned. Just as in the morning this program changed each day. Many programs had a monthly theme like "summer vacations" and some programs were led by other staff (nursing assistants, dietician, occupational and physical therapy, social work, support staff) and volunteers. Each day, one nursing assistant was scheduled to lead a program. One nursing assistant led a special exercise program using canes, another, whose hobby was gardening, brought flowers from home for flower arranging with ladies. The social worker led a Veterans of Foreign Wars (VFW) meeting once a month for the men and the dietary consultant gave a "tea" for the ladies. Staff offered to lead programs when simply asked. The administrator added credibility to this by leading a poetry-reading group. Three days a week a restorative aide provided sensory programs for residents with end-stage dementia who otherwise participated in other programs according to their abilities or were engaged individually. A specific continuous activity program for residents with end-stage dementia was recently developed and described.[13]

The concept of making everything a meaningful activity became part of the way staff approached activities of daily living in creative ways. One nursing assistant asked if we could have a barbershop on the unit. He was given the approval and made an empty resident room into a "barbershop," complete with an unused barber chair. A barber pole was placed on the door when the "barbershop" was opened. However, introduction of The Club increased demand for care on this unit and this quickly filled empty rooms. Therefore, the barbershop eventually had to be relocated in a former closet. Grooming and oral care were provided in this environment by a nursing assistant who brought 2 or 3 residents from The Club for grooming. A chair and "guys" magazines gave the resident waiting something to look at while the other resident was getting shaved. The beautician and barber also used the room on their scheduled days. This environment gave clues to the purpose of the activity thereby reducing resistiveness to care.

Dining was made more meaningful by involving residents in setting tables, providing a home-like environment with placemats and centerpieces, and having consistent seat assignments for all meals.

"The Vets' Club" at E.N. Rogers Memorial Veterans Hospital

Based on observation of The Club in the Vermont State Nursing Home, continuous activity programming was developed at two 50-bed Dementia Special Care Units (DSCU). These units provide care for almost exclusively male veterans who are mostly in the severe stage of a progressive degenerative dementia (mean MMSE score of a recent random sample was 2.8 ± 4.5 with range from 0 to 16[14]). The Club was staffed by several disciplines including nursing, occupational therapy, rehabilitation health technicians, social work, and support staff but without any staffing increase. Most of these individuals had little prior experience in providing meaningful activities to individuals with dementia. In addition, no therapeutic recreational staff was allocated to the DSCU at this time. However, as the occupational therapy scope of practice clearly defines the domain of occupational therapy to include the everyday activities of leisure and social participation as well as self-care and work, the occupational therapist was a logical choice for training staff in how to provide activities for this population.[15] As such, group training sessions were led by occupational therapists as well as a social worker who provided additional interdisciplinary support. Prior to independently leading activities in the Vets' Club, the staff were provided with the opportunity to co-lead a group with an occupational therapist to improve their comfort level.

The Vets' Club activities were limited to morning hours and ended after lunch because many family members visited their relatives in the afternoon. During the Vets' Club hours, interdisciplinary staff members were assigned to the dayroom to engage veterans in meaningful activities (approximately 1:15 staff-veteran ratio). Immediately following breakfast, the activities started with a "Rise & Shine" group that was composed of a variety of activities focused on morning "wake-up" and included greeting of the veterans, the Pledge of Allegiance, socialization, morning stretch and exercises, and music. This activity was followed by smaller group activities that depended on level of a veteran's function. Veterans with higher level of function were involved in crafts (such as sanding wood and painting), trivia, current events, reminiscence, adapted sports, and sing-a-long. Lower functioning veterans were provided with hand massage, nail care, sensory groups, and balloon and ball toss. Efforts were made to include all veterans in the activities according to their abilities even if at most some veterans were only able to passively observe the active participation of others. Veterans without visitors in the afternoon were provided with a variety of other structured activities that included music performances, craft groups, cooking activities, games, and social parties.

Therapeutic Activity Center (TAC) at E.N. Rogers Memorial Veterans Hospital

Despite establishment of The Vets' Club, the staff of the DSCU felt a need for additional activity involvement for higher functioning residents because The Vets' Club groups were quite large (up to 40 residents in the morning and 20 in smaller group activities). Furthermore, it was felt that the residents would benefit from a change in their physical environment as all activities and meals are provided in the same location on the DSCU. Availability of additional space and additional staff provided opportunity for development of a full-day meaningful activity program that provided care for 12 long-term residents and was staffed with 2 rehabilitation health technicians (rehabilitation aides assigned to provide meaningful activities as well as implement functional main-

Table 1. *Effects of The Club at the Vermont State Veterans Home**

Variable	Before	After	χ^2(t)	*P*
Psychoactive medications	20	8	10.3	<.01
Neuroleptics	19	6		
Antidepressants	4	0		
Benzodiazepines	2	1		
Mood stabilizer	4	1		
Weight				
Loss	9	1	14.7	<.001
Gain	1	11		
Social isolation	15	5	7.8	<.01

* Data are numbers of veterans exhibiting each variable.

tenance programs established by the occupational therapists) and 1 nursing assistant. Because of the limited number of residents who could be involved in this program, the residents from each DSCU attended this program on alternating days.

To be included in the TAC, residents had to be able to follow 1-step commands, respond to redirection for intrusive/disruptive behaviors, attend to a task for 10 minutes, tolerate the small space of the TAC environment, and feed themselves with set-up to limited physical assistance. The program began at 9:30 AM with coffee, danish, and social time, followed by a whole group activity similar to that in The Vets' Club (adapted sports, exercise, trivia, sing-a-longs). Veterans were then divided into small groups and involved in task-based groups such as cooking, drawing, painting, table-top games, and crafts. Following these activities at approximately 11:00 AM, veterans would then assist staff with mealtime preparation by preparing sandwiches, cleaning tables, relocating furniture as needed, and setting the table. Lunch was typically served at noon followed by a 30-minute relaxation period as well as time to use the bathroom. After this relaxation period, veterans were engaged in another small group activity such as a simple craft, sensory stimulation activity, and/or socialization. The afternoon concluded with a whole group activity including pet therapy, adapted sports, and/or reminiscence. Veterans returned at 3 PM to their inpatient units.

Program Evaluation

The effectiveness of The Club programs was evaluated as part of the quality improvement activity from Minimum Data Set data collected for other purposes and from an anonymous survey of staff and family members. The evaluation was limited to comparison of data before The Club was introduced and data after the introduction. At the Vermont State Veterans Home, the outcome data were collected 3 months after program initiation. Monthly data were collected at the E.N. Rogers Memorial Veterans Hospital.

Effectiveness of the TAC program was evaluated by comparing days in which residents were involved in the TAC with days when residents remained on the inpatient unit and were involved only with The Club. Data were collected by a chart review of 22 residents and from behavior logs completed by DSCU charge nurses as a quality improvement activity.

RESULTS

"The Club" in Vermont State Nursing Home

Introduction of The Club doubled the hours of activities without increase in staffing. Use of psychotropic medications was significantly decreased after The Club introduction (Table 1) because of improvement in behavioral symptoms of dementia. This decrease included all classes of medications: neuroleptics (olanzapine, haloperidol, quatiapine, risperidone), antidepressants (citalopram, trazodone), benzodiazepines (lorazepam), and mood stabilizers (divalproex sodium). The Club also improved nutritional status of the veterans because of food consumption during activities. While several veterans were losing weight before The Club introduction, only one of them continued losing weight and several gained weight after The Club was introduced. The Club also significantly decreased the number of veterans who were considered socially isolated by the MDS evaluation.

"The Vets' Club" at E.N. Rogers Memorial Veterans Hospital

Introduction of The Vets' Club resulted in a decreased number of residents who spent less than one third of their waking hours in activities (Fig. 1) and decreased use of anti-anxiety/hypnotic medications (Fig. 2). Unfortunately, data about use of other psychoactive medications were not available. A survey indicated that 92% of family members were highly satisfied with the quantity and quality of meaningful activities offered on the unit. A survey of staff involved in the activities indicated that 86% were more comfortable leading activities in The Vets' Club since the training sessions. The staff informally noted that there was decrease in wandering, pacing, and agitation by the veterans during Club activities and that veterans' attention span and willingness to participate in activities increased. When family members were present, they became involved in the activities not just involving their loved one but also other veterans (eg, singing with a few of the veterans in the afternoon). The staff also felt

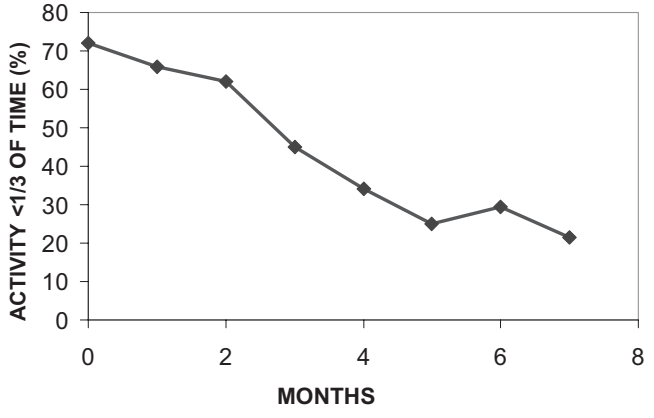

Fig. 1. *Percentage of residents spending less than one third of their waking time in activities after introduction of The Club.*

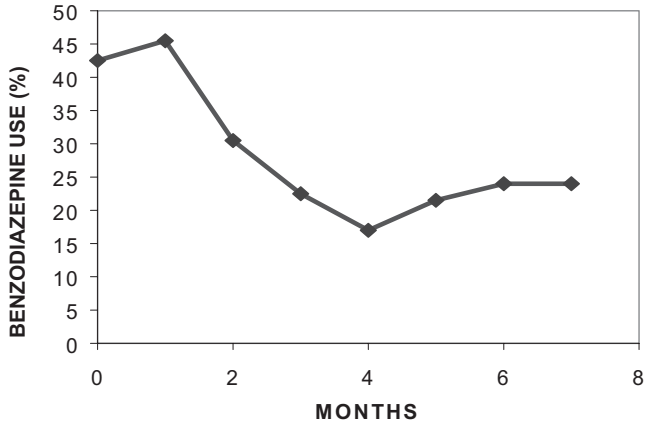

Fig. 2. *Percentage of residents who were treated with benzodiazepines after introduction of The Club.*

that The Vets' Club introduction increased interdisciplinary collaboration, developed confidence and trust in other team members, and improved communication with family members (eg, a monthly meeting was established with family members and staff).

Therapeutic Activity Center (TAC) at E.N. Rogers Memorial Veterans Hospital

Comparison of days when veterans were attending TAC with days when they stayed on the inpatient units showed that during the TAC days there were significantly fewer days with observed agitation than when back on the unit (Table 2). There was also less need for administration of psychoactive medications prescribed on an "as needed" basis and less sleep disturbance after TAC days than after days spent solely on the unit.

DISCUSSION

Nursing homes are mandated by the Omnibus Budget Reconciliation Act (OBRA) to provide "an on-going program, directed by a qualified professional, of activities designed to meet the interest and the physical, mental, and psychosocial well-being of each resident"[16] and number of residents who spend less than one third of their waking time in activities is monitored by the Minimum Data Set. Despite this regulation, a recent study of 107 long-term residents with dementia found that almost 45% of residents received little or no facility activities, 20% received occasional activities, and 12% received daily activities but they were deemed inappropriate based on the functional levels or interest of the residents.[11] In the same sample, small group recreational therapy was successful in engaging residents 84% of the time. Similarly, another study found that even on an Alzheimer's disease special care unit residents were predominantly environmentally disengaged, inactive, and without positive affects.[17]

Engagement in activities has a beneficial effect on a resident's quality of life. Dementia residents were 7 times more likely to express happiness during recreation time and 44% of residents expressed happiness only during recreation time.[18] During time when no activity was provided, residents spent 60% of their time in a solitary situation, 66% had no affect, and 49% of the time they were sitting and doing nothing. Semi-structured interviews showed that importance of activities is recognized by residents, relatives, and staff.[19] Increased time spent in activities decreases restless behavior of individuals with dementia attending an adult day center[20] and strategies that involve residents in activities of daily living performed in the morning decrease disruptive behavior [21] and agitation.[22] Therefore, it is not surprising that involvement in the continuous activity programming decreased use of psychotropic medications reported in this article.

Continuous activity programming also improved nutritional status of residents probably because food was offered during many activities and because of improvement in the dining experience. Continuous activity programming does not only increase the amount of time activities are provided but it may also improve involvement of residents with dementia in activities. It was reported that as the length of resting time before scheduled activity increased, active participation significantly decreased.[23] Last, it was found that overall fewer sleep disturbances were noted in residents on the days they attended the TAC program. It is postulated that this reduction in sleep disturbances is linked to the involvement of these residents in continuous activity programming while at TAC.

Initiation of the 2 Clubs described in this report did not require any changes in staffing level. It was accomplished by restructuring responsibility of nursing assistants who became involved in making activities of daily living meaningful activities and were educated to lead group meaningful activities. The programs were further enhanced by direct involvement in activities of disciplines that were not previously involved: dietetic, social work, occupational and physical therapy, nursing, support staff, and others. The

Table 2. *Effects of Involvement in the Therapeutic Activity Center (TAC)*

Variable	Days in TAC	Days on Inpatient Unit	*t*	*P*
Days	338	1919	NA	NA
Agitation	2.1* (7)†	5.2 (99)	2.8	.011
Medications as needed (PRN)	1.7 (6)	3.8 (73)	2.6	.016
Sleep disturbance	1.2 (4)	3.1 (60)	2.2	.038

* Percentage of days during which the variable was observed.
† Number of days during which the variable was observed.

activities led by these individuals included "Ladies tea" led by a dietitian and "VFW meeting" led by a social worker. These types of activity indicates the feasibility of improving activity programs in the nursing home setting without additional expenses. Many staff members were initially reluctant to change their activities and adopt The Club philosophy. However, after seeing the effect of The Club on the residents, they became enthusiastic supporters. A similar beneficial effect of a high-stimulation geriatric setting on staff was also described previously.[24]

In contrast, the Therapeutic Activity Center was staffed by additional personnel. It is striking that this Center may have represented improvement over an existing Club. The higher ratio of staff to participants allowed more individually customized activities that were reported to improve behavioral symptoms over activities that are just adjusted by skill level of the individuals.[25] Thus, the provision of meaningful activities joins a number of other nursing home care areas where improvements are possible with increased funding.[26] The need for activities should be considered when optimal staffing levels are discussed. However, it is also possible for assisted living facilities and some nursing homes to recover the cost of additional staffing by increased charges.

This report cannot be considered a definite proof of advantages of continuous activity programs. It suffers from many of the limitations that are present in studies investigating activities for person's with Alzheimer's disease.[27] There was no random assignment of the intervention and historical controls were used. Thus, this report should be considered more an indication of the feasibility of instituting continuous activity programming and, hopefully, also a stimulus for further research into its efficacy.

CONCLUSION

Introduction of continuous activity programming with no additional staffing increased the time residents were involved in meaningful activities, decreased use of psychotropic medications, improved nutritional state, and increased family satisfaction. When additional staffing was available, more intensive continuous activity programming further decreased agitation, and improved sleep.

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