Recreational Activities to Reduce Behavioural Symptoms in Dementia

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Few clinicians have an educational grounding in the use of nonpharmacological therapies for people with dementia. In this article, we explore the utility of recreational activities as one nonpharmacological intervention that has demonstrated effectiveness for reducing the behavioural symptoms of dementia. The implementation of effective recreational activities involves three components: understanding the evidence for this approach; acknowledging the need to reduce medications that have the potential to interfere with activity effectiveness; and individualizing activities so that the maximum benefit from the intervention is obtained.

Key words: dementia, activities, nonpharmacological interventions, potentially inappropriate medications, individualized care

Introduction

Biomedical research has advanced our understanding of the genetic and biological bases of dementia disorders. Unfortunately, the enormous investment in pharmacological treatments for dementia and its related symptoms has not translated into a cure for these devastating diseases. The behavioural symptoms that accompany dementia are still some of the most difficult and distressing behaviours that caregivers deal with when caring for people with dementia.1

Behavioural symptoms include aggression, wandering, screaming, and apathy; they tend to be most problematic during moderate stages of dementia, and they account for many poor health outcomes such as a decline in physical functioning, the use of restraints, social isolation, and increased risk of abuse.2–4 Behavioural symptoms contribute significantly to long-term care costs and are a major source of caregiver burden.5,6 As dementia progresses, many individuals exhibit both agitation and apathy,7 making pharmacological treatment difficult because the sedating effects of drugs used to treat agitation may increase apathy.

Nonpharmacological interventions are recommended as the first line of treatment for the behavioural symptoms of dementia because they are safe and equally efficacious as pharmacological treatments.8 Few clinicians, however, have an educational grounding in the use of nonpharmacological therapies for people with dementia. In this article, we explore the utility of recreational activities as one nonpharmacological intervention that has demonstrated effectiveness for reducing the behavioural symptoms of dementia, particularly during mild to moderate stages of the disease. The implementation of effective recreational activities involves three components: understanding the evidence for this approach; acknowledging the need to reduce medications that have the potential to interfere with activity effectiveness; and individualizing activities so that the maximum benefit from the intervention is obtained.

The Evidence for Recreational Activities

Activity, both mental and physical, is a basic human need. Unfortunately, people with dementia have a very low rate of activity participation because they often lack the physical and cognitive abilities to initiate engagement. The boredom and isolation that result from inactivity lead to many of the behavioural symptoms exhibited by people with dementia.9

Recreational programs promote quality of life by providing an appropriate level of stimulation using meaningful activities. Less research has been devoted to testing the effectiveness of recreational activities in comparison to pharmacological therapies for reducing behavioural symptoms; however, the results from this small body of work are promising. A systematic review of recreational activities found good evidence for the effectiveness of music therapy, Snoezelen—a relaxation technique popular in European countries—and some types of sensory stimulation.10 Other research offers some support for use of pet therapy, exercise, and bright light therapy.11–13 Less evidence supports the use of reminiscence therapy, reality orientation, validation therapy, Montessori activities, or simulated presence.

There are several themes that underlie the evidence for recreational activity interventions. First, these interventions are most effective in the prevention of behavioural symptoms and less so during a behavioural crisis. Second, their effect is short lived, so they need to be provided on a continuous basis to pre-
### Activities to Reduce Behavioural Symptoms in Dementia

**Figure 1:** Example of a Simple Leisure Interest Finder

**Farrington Leisure Interest Inventory**

<table>
<thead>
<tr>
<th>Client</th>
<th>Informant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Work History</td>
</tr>
<tr>
<td>Where Born/Grew up</td>
<td></td>
</tr>
</tbody>
</table>

Directions: Check column P if did in the past. Column N if does now or would like to.

#### Sports/Games

- Archery
- Auto Racing
- Badminton/Tennis
- Baseball/Softball
- Basketball
- Billiards
- Bingo
- Board Games
- Bocce Ball
- Bowling
- Boxing
- Card Games
- Checkers/Chess
- Computer/Video
- Croquet
- Crossword/Word find
- Darts
- Fitness/Exercise
- Football
- Gambling
- Golf
- Gymnastics
- Museums
- Horseracing
- Horseshoes
- Puzzles
- Martial Arts
- Miniature Golf
- Shuffleboard
- Soccer
- Squash/Handball
- Table Tennis
- Volleyball
- Watching Sports

#### Social

- Ambulance volunteer
- Auctions
- CB Radios
- Children
- Church Activities
- Civic Activity
- Club Meetings
- Dancing
- Dining Out
- E-mail
- Fire Department Volunteer
- Fraternal Org.
- Garage Sales
- Ham Radio
- Hot Tub
- Massage
- Motorcycles/ATV
- Parties
- Pets:
- Political Activity
- Pub or Tavern

#### Outdoors

- Bicycling
- Bird Watching
- Boating/Canoeling
- Butterfly Watching
- Camping
- Driving
- Fishing
- Car Rides
- Gardening
- Going to Beach
- Horseback Riding
- Hunting/Trapping
- Ice Skating
- Jogging/Walking
- Kite Flying
- Outdoor Walks
- Nature/Environment
- Parades
- Picnicking
- Rec. Vehicles—RV
- Riding in a Car
- Roller Skating/Blading
- Skiing
- Snow Activities
- Sunbathing
- Surfing
- Swimming

#### Cultural

- Acting—Theatre
- Antique Cars
- Antiques
- Auto Care/Repair
- Bookbinding
- Ceramics
- Collecting:
  - Concerts
  - Cooking/Baking
  - Crafts
  - Creative Writing
  - Decorating
  - Designing Clothes
  - Drawing House Plans
  - Electronics
  - Flower Arranging
  - Leatherworking
  - Meditating
  - Model Building
  - Movies:

#### Favourite thing to do

- List Other:

#### favourite food

- List Other:

#### Types of music enjoyed

- List Other:

#### Recreation therapist

- List Other:

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vent behavioural symptoms from occurring. Third, greater efficacy is realized when activity interventions are individualized along the lines of a person’s interests and functional abilities and are balanced throughout the day with periods of rest. Finally, the successful implementation of these interventions requires collaboration with the interdisciplinary team, including nurses, the recreational therapies, and the primary care physician. One area of interdisciplinary collaboration that is vital to the success of nonpharmacological interventions is the reduction of medications that interfere with active engagement in daily activities.

**Reducing Medications That Interfere with Activities**

Central nervous system (CNS)-active medications are often used to treat the behavioural symptoms of dementia, but there is little evidence of their effectiveness and a great risk of drug-related problems from their use. Reducing, or where possible avoiding, the use of high-risk drugs that interfere with active engagement is an important strategy for implementing effective recreational activities in people with dementia. Even CNS-active medications that are appropriately used in this population can accumulate in amounts that lead to problems that interfere with the performance of even the most basic activities.

Potentially inappropriate medications (PIMs) as defined by the Beers criteria and CNS-active medications classified according to the American Hospital Formulary Service are medications that carry a high risk for sedation and other associated problems in people with dementia. Many of the medications on these lists carry a high anticholinergic burden, which lessens older adults’ ability to participate in recreational and cognitive activities. Practitioners who are serious in their efforts to use nonpharmacological interventions for behavioural symptoms should make attempts to avoid or reduce these medications.

Several methods can be used to reduce high-risk medications, and these are included in Beers criteria, Assessing Care of Vulnerable Elders (ACOVE) criteria, Screening Tool of Older Persons’ potentially inappropriate Prescriptions (STOPP) criteria, and the Medication Appropriateness Index. When discontinuing a medication, the whole clinical picture should be considered. Several recent intervention studies have shown promising evidence that PIMs can be effectively reduced or eliminated in older adults. Yourman et al. reviewed 10 studies that utilized computer decision support to decrease problem medications, and eight of these studies showed

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**Table 1: How to Decide What Activities to Prescribe**

<table>
<thead>
<tr>
<th>1. Physical Demands/Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>What parts of the body are required? Arms, hands, legs, feet, neck, head?</td>
</tr>
<tr>
<td>What types of movement are required? Bending, stretching, standing, reaching, throwing, catching?</td>
</tr>
<tr>
<td>What level of coordination is required? Eye-hand coordination?</td>
</tr>
<tr>
<td>What level of strength is required? Endurance? Flexibility?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Cognitive Demands/Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much immediate recall is necessary?</td>
</tr>
<tr>
<td>How much long-term memory is necessary?</td>
</tr>
<tr>
<td>What level of concentration is required? For how long?</td>
</tr>
<tr>
<td>How many rules are there?</td>
</tr>
<tr>
<td>Do participants need to be able to read? Write? Use math?</td>
</tr>
<tr>
<td>Do participants need to be able to recognize colour, objects, sizes, or numbers?</td>
</tr>
<tr>
<td>Is abstract thinking needed?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Emotional Demands/Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>What feelings, if any, may be expressed as part of this activity? Joy, guilt, pain, anger, fear, or frustration?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Social Demands/Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>What type of social interaction is demanded? Dyad? Small group? Large group?</td>
</tr>
<tr>
<td>Do participants interact directly with one another?</td>
</tr>
</tbody>
</table>
Activities to Reduce Behavioral Symptoms in Dementia

Table 2: Recreational Activities Commonly Enjoyed by People with Early and Moderate Dementia

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table games</td>
</tr>
<tr>
<td>Shuffleboard</td>
</tr>
<tr>
<td>Chair volleyball</td>
</tr>
<tr>
<td>Bocce ball or bowling</td>
</tr>
<tr>
<td>Horseshoes</td>
</tr>
<tr>
<td>Music lessons</td>
</tr>
<tr>
<td>Songbook creation</td>
</tr>
<tr>
<td>Books on tapes</td>
</tr>
<tr>
<td>Brain fitness</td>
</tr>
<tr>
<td>Cooking</td>
</tr>
<tr>
<td>Adaptive cards</td>
</tr>
<tr>
<td>Construction crafts</td>
</tr>
<tr>
<td>Exercising</td>
</tr>
<tr>
<td>Dancing</td>
</tr>
<tr>
<td>Gardening or being outdoors</td>
</tr>
<tr>
<td>Memory book</td>
</tr>
<tr>
<td>Putting green/adapted golf</td>
</tr>
<tr>
<td>Relaxation session</td>
</tr>
<tr>
<td>Bird/nature activities</td>
</tr>
<tr>
<td>Magazine/book clubs</td>
</tr>
<tr>
<td>Community re-integration</td>
</tr>
<tr>
<td>Teaching others</td>
</tr>
<tr>
<td>Discussion/feelings groups</td>
</tr>
<tr>
<td>Health promotion classes</td>
</tr>
<tr>
<td>Coping skills classes</td>
</tr>
</tbody>
</table>

1. A series of activities from the book Brain Fitness (Fitzsimmons, 2008) that has activity plans for three levels of cognitive activities.
2. Adapted card games use large cards, simplified rules, or a card holder.
3. Memory books are individualized wallet-sized books jointly made to help residents make needs and preferences known.

Sources: Fitzsimmons S et al., 2002; Buettner L et al., 2006.

To individualize a recreational offering, the practitioner begins by determining leisure interests. After interests are determined, the older adult is assessed for skills and limitations. The activity is then analyzed and adapted to provide challenge and success.

It is important to realize that not all activities are therapeutic and that one recreational activity does not fit all people. For people with mild to moderate dementia, it is important to provide sigma-free normalized recreational experiences based on their interests. There is a growing body of evidence concerning retained awareness in people with early- and moderate-stage dementia that identifies their desire to live normally and with continuity. Self-awareness is germane in the identification of needs; needs associated with a retained awareness of recreation and leisure may be appropriately identified with a simple leisure interest finder (Figure 1). A broad range of individualized needs are addressed during recreation, including self-esteem, personal control, leisure education, and social support. Retained awareness allows people with dementia the opportunity to share their perspectives and, in some ways, to help determine their own recreational activities.

In order to provide individualized care, practitioners must assess each client’s cognitive functioning and the physical limitations that determine skill levels. Based on these assessments, practitioners can tailor their recreational offerings so they meet interests and are implemented in an adapted manner to provide success. Cognitive impairments reduce speed, language ability, and abstract thinking. The goal is to engage the older adult in an activity that provides challenges matching his or her skill level. To do this, the activity itself needs to be evaluated.

Activity analysis is a method for examining the characteristics or demands and challenges of a recreational activity. The information gleaned from activity analysis allows the practitioner to ultimately consider the demands or challenges of an activity in relation to the skill level of the older adult (Table 1). Once the practitioner understands the demands of the recreational activity and the skills of
the older adult, adaptations are made that will ideally lead to an engaging, active, and successful experience. Table 2 offers a list of popular recreational activities identified by people with early- and moderate-stage dementia. Activity analysis and adaptation should be used by the practitioner to modify and individualize these offerings.

While the individual with dementia has a progressive disorder that may limit his or her ability to participate in certain activities, this does not mean that those activities cannot be modified to meet the abilities of the individual. Often, activities can be simplified by breaking them down into steps and eliminating or modifying steps that are too difficult. This process is called activity adaptation.

A simple example of how activities can be adapted involves the game of Bingo. Almost everyone has played Bingo at some time in his or her life, and the rules are simple; however, to an individual with dementia, the Bingo card can be complicated and formidable. There are a number of things that can be done to simplify Bingo to meet the abilities of individuals with dementia. First, cards can be homemade to include fewer numbers—rather than being five squares by five squares, the cards can be made three by three or two by three. Second, rather than using a large variety of numbers, the game can use only one to 20. Third, eliminating the free space can also simplify the activity. One last way the activity can be modified is by making each game “black-out,” which means all the squares are covered to win. This approach makes it easier for the individual with dementia to determine independently that he or she has won.

When adapting activities, it is important to keep them as close to the original or traditional activity as possible. Too much adaptation may change the activity to the point where it is not recognizable to the individual. Therefore, only necessary adaptations should be made. Also, remember that an adaptation for one individual may not be the correct adaptation for another individual.

Another key to successful participation involves the structure of activities. Breaking the tasks of the activity into steps ensures a flow of information and demands that can be understood and followed by the person with dementia.

**Conclusion**

In summary, recreational activities hold much promise for reducing behavioural symptoms and improving quality of life for people with dementia. An informed approach to their use will maximize the effectiveness of this first-line treatment.

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