



AOTA Critically Appraised Topics and Papers Series Alzheimer's Disease

**A product of the American Occupational Therapy Association's
Evidence-Based Literature Review Project*

CRITICALLY APPRAISED PAPER (CAP)

Focused Question

What is the evidence for the effectiveness of interventions designed to establish, modify, or maintain routines on the occupational performance, quality of life, health and wellness, and client and caregiver satisfaction of persons with Alzheimer's disease?

Kovach, C. R., & Stearns, S. A. (1994). DSCUs: A study of behavior before and after residence. *Journal of Gerontological Nursing, 20*(12), 33–39.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

Dementia special care units (DSCUs) are on the rise, and anecdotal evidence supports the benefits for residents and staff. However, empirical data is limited. The opening of a new DSCU in one facility enabled data to be collected about behaviors and use of restraints before and after a move into the DSCU.

RESEARCH OBJECTIVE(S)

List study objectives.

The study was designed to determine if there was a difference in behaviors associated with dementia before and after move to a Dementia Specific Care Unit (DSCU). A second objective was to determine if the need for chemical or physical restraint was different after move to a DSCU.

Describe how the research objectives address the focused question.

Structuring a daily routine is part of the common characteristics of DSCUs. Planned and scheduled activities were explicitly listed as one of the goals of the DSCU. Therefore, routines are a part of the DSCU intervention.

DESIGN TYPE:

Before and After Design

Level of Evidence:

III

Limitations (appropriateness of study design):

Was the study design type appropriate for the knowledge level about this topic? *If no, explain.*

Yes

✓ Little was known about the effectiveness of DSCU programs at the time of the publication of this study.

No

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

Inclusion Criteria

All residents scheduled to move to the new unit were eligible. Their guardians were approached to consent.

Admission criteria for the unit were:

- Resident with mild to severe irreversible cognitive impairment;
- Resident who exhibits anxiety, agitation, affective disturbances, or activity disturbances when in an unstructured environment;
- Resident who experiences social isolation or diversional activity deficit when not engaged in group programs; and
- Resident who can engage in group programming or not be disruptive to group activities.

Exclusion Criteria

NR

NR = Not reported

Sample Selection Biases: If yes, explain.

Volunteers/Referrals

Yes

No

Attention

Yes

No

Others (list and explain):

Since residents were selected for the DSCU, they were considered good candidates to benefit from the setting. All were exposed to the same degree of attention once transferred to the new unit.

SAMPLE CHARACTERISTICS

N = 22 (of a possible 24 residents – 2 refused consent to participate in the study)

% Dropouts

#/ (%) Male

#/ (%) Female

Ethnicity

Disease/disability diagnosis

Check appropriate group:

< 20/study group	20–50/study group <input checked="" type="checkbox"/>	51–100/study group	101–149/study group	150–200/study group
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Sample Characteristics Bias: If no, explain.

If there is more than one study group, was there a similarity between the groups?

Yes

No Only one group was enrolled in the study.

Were the reasons for the dropouts reported?

Yes

No No dropouts

INTERVENTION(S)— Included are only those interventions relevant to answering the evidence-based question.

Add groups if necessary.

Group 1

Brief Description	DSCU involved specialized activities to meet individual treatment goals, planned schedule of activities; activities to promote maximum functioning; ensuring a safe environment adapted to the needs of the residents.
Setting	A newly created DSCU in a long-term-care facility.
Who Delivered?	A multidisciplinary team: pastoral care, nursing, recreation therapy.
Frequency?	Daily
Duration?	Two months

Intervention Biases: Explain, if needed.

Contamination

Yes

No

Co-intervention

Yes Since the intervention is multimodal, it is difficult to avoid co-intervention within the DSCU. However, the goal of the study was not to differentiate which aspects of the DSCU were most effective. Other biases do not apply to this study, since it was a single group, before-after design.

No

Timing

Yes

No

Site

Yes

No

Use of different therapists to provide intervention

Yes

No

MEASURES AND OUTCOMES—Included are measures relevant to answering the focused question.

Name of measure:

BEHAVE-AD (modified for the study to remove 8 of 12 items related to delusions and hallucinations, and adding a question about group interactions)

Outcome(s) measured (what was measured?):

Behavioral symptoms associated with Alzheimer disease and other dementias

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

How frequently was the measure used for each group in the study?

One month prior and two months after the opening of the unit

Name of measure:

Restraint record

Outcome(s) measured (what was measured?):

Use of chemical and physical restraints

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

How frequently was the measure used for each group in the study?

One month prior and two months after the opening of the unit

Measurement Biases

Were the evaluators blinded to treatment status? *If no, explain.*

Yes

No

Recall or memory bias. *If yes, explain.*

Yes

No

Others (list and explain):

Limitations (appropriateness of outcomes and measures). *If no, explain.*

Did the measures adequately measure the outcome(s)?

Yes

✓ Although the outcome measures appear appropriate, the modifications to the BEHAVE-AD with no comments about the reliability and validity of the measure represent a measurement limitation. It is not clear who completed the BEHAVE-AD, or if inter-rater reliability is of concern.

No

RESULTS

List results of outcomes relevant to answering the focused question.

Include statistical significance where appropriate ($p < 0.05$).

Include effect size if reported.

- There was significant reduction in activity disturbances, aggression, affective disturbances, and increase in social interactions on the modified BEHAVE-AD – mean of 8.0 at pretest and 4 at post-test (paired t -test: $p < 0.001$).
- In a global ranking of how troubling or dangerous behavior was, 9 patients ranked as mild before and 2 after, and one was moderate before and 2 were moderate after.
- 4 patients increased use of physical restraints, while 5 became restraint free and 6 required the same level of physical restraints. No subjects decreased their use of chemical restraints; 2 increased dosages and 4 remained the same.
- 5 patients increased phobic behavior, but no value is reported.

Was this study adequately powered (large enough to show a difference)? *If no, explain.*

Yes

No

✓ With only one group, power analysis is not applicable

Were appropriate analytic methods used? *If no, explain.*

Yes

No

Were statistics appropriately reported (in written or table format)? *If no, explain.*

Yes

No

CONCLUSIONS

State the authors' conclusions that are applicable to answering the evidence-based question.

The authors note that the results demonstrate “an improvement in discomforting behaviors from pre- to post-measurement” (p. 37). They also note that causal claims cannot be made with a pre-post design such as this.

Were the conclusions appropriate for the Study Design (Level of Evidence)? *If no, explain.*

Yes

No

Were the conclusions appropriate for the statistical results? *If no, explain.*

Yes

No

Were the conclusions appropriate given the study limitation and biases? *If no, explain.*

Yes

No

IMPLICATIONS FOR OCCUPATIONAL THERAPY

This section provides guidance about clinical practice, program development, and other implications of the study findings as they relate to the focused question.

Occupational therapists working on DSCUs need to be aware of the use of routines as one component of the setting, along with staff training and specific physical environment characteristics. Although routines are only one aspect of the DSCU, this study provides some support (although preliminary) for the value of the DSCU in reducing some challenging behaviors and the use of physical restraints. The study did not find reductions in chemical restraints. Further, it did not explore changes in the functional abilities of the residents on the DSCU, nor did it examine client or caregiver satisfaction or quality of life. The authors note that a comparison group was not available for the study. This is a major limitation of the study, since we don't know if other, similar clients would have experienced similar changes in outcomes without being moved to a DSCU.

While it is difficult to ascertain the role of occupational therapy in this study, occupational therapy as a discipline was involved in the planning of the unit and activities. The occupational therapy role of the unit was not clearly outlined, and occupational therapy is not listed as a discipline with a lead role in implementing the activities routine on the unit. However, since occupational therapists and occupational therapy assistants have knowledge about the role routines play in terms of occupational performance, they could use that knowledge to advocate for a primary role as a member of the DSCU team.

This work is based on the evidence-based literature review completed by Lori Letts, PhD, OT Reg. (Ont.), Mary Edwards, MHSc, OT Reg. (Ont.), Julie Berenyi, BHSc (OT), OT Reg. (Ont.), Kathy Moros, BHSc (OT), OT Reg. (Ont.), Colleen O'Neill, BSc (OT), OT Reg. (Ont.), and Colleen O'Toole, MSc (OT), OT Reg. (Ont.)

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For more information about the Evidence-Based Literature Review Project, contact the American Occupational Therapy Association, 301-652-6611, x 2052.



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