



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 effect of interventions designed to modify and maintain perceptual abilities on the occupational performance of persons with dementia?

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Baillon, S., van Diepen, E., Prettyman, R., Redman, J., Rooke, N., & Campbell, R. (2004). A comparison of the effects of Snoezelen and reminiscence therapy on the agitated behaviour of patients with dementia. *International Journal of Geriatric Psychiatry, 19*, 1047–1052.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

Although originally developed as a leisure intervention, claims have been made about the therapeutic value of Snoezelen. Reminiscence therapy also has been associated with claims of therapeutic value, though little empirical evidence supports its use. The authors identified a need to evaluate the effectiveness of each intervention in comparison to the other.

RESEARCH OBJECTIVE(S)

List study objectives.

The purpose of the study was to study the value of Snoezelen on agitated behavior of people with dementia, using a comparison intervention (reminiscence) to control for the effects of increased staff attention.

Describe how the research objectives address the focused question.

Snoezelen is a form of intervention designed to increase or maintain a person's remaining perceptual abilities. The study should shed light on the effectiveness of this intervention. The outcomes of the study are not specifically targeting occupational performance outcomes, but communication is included within one outcome measure.

DESIGN TYPE:

Randomized, controlled, crossover design

Level of Evidence:

I

Limitations (appropriateness of study design):

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

Yes

✓ Each participant acted as their own control; the two interventions were offered to each participant (randomized as to which intervention was offered first) with a 1 week break between them.

No

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

All participants were recruited from three locations: two units of care for older people with mental health problems (primarily in the day hospitals); one charity-run nursing home

Inclusion Criteria

- Diagnosis of dementia
- Rated by staff as having significant agitation

Exclusion Criteria

People were excluded from the study if they:

- Had a pacemaker
- Had significant hearing impairment
- Had significant visual impairment
- Did not speak English.

Sample Selection Biases: *If yes, explain.*

Volunteers/Referrals

Yes

✓ Potential subjects were identified by staff, which could indicate bias of selecting participants most likely to benefit

No

Attention

Yes

No

Others (list and explain):

SAMPLE CHARACTERISTICS

N = 25

% Dropouts

(%) Male

(%) Female

Ethnicity

Disease/disability diagnosis

NR = Not reported

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

Were the reasons for the dropouts reported?

Yes

No

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

Add groups if necessary

Group 1

Brief Description	Snoezelen Intervention: One-to-one intervention, individualized but based on guidelines; used all sensory equipment available in Snoezelen room, avoiding materials with a definite reminiscent purpose (e.g., music)
Setting	One of the 3 settings through which participants were recruited
Who Delivered?	One of 3 trained staff members; each participant was always with the same staff member (random assignment)
Frequency?	3 sessions over 2 weeks
Duration?	Up to 40 minutes per session

Group 2

Brief Description	Reminiscence Intervention: One-to-one intervention, individualized but based on guidelines; utilized pictures or objects to evoke memories for the participant; used music to complement or as a focus for the session
Setting	One of the 3 settings through which participants were recruited
Who Delivered?	One of 3 trained staff members; each participant was always with the same staff member
Frequency?	3 sessions over 2 weeks
Duration?	Up to 40 minutes per session

Intervention Biases: Explain, if needed.

Contamination

Yes

No Guidelines for intervention suggest that contamination between the two interventions is unlikely.

Co-intervention

Yes

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:

Agitation Behavior Mapping Instrument (ABMI)

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

Frequency of agitated behavior

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?

3 minute samples before, immediately after, and at 15 and 30 minutes after each session

Name of measure:

Interact Short scale (modified)

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

Mood and behavior

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?

Immediately after each session by the therapist

Name of measure:

Heart rate monitor

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

Heart beats per minute

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?

For each session, 15 minutes before until 30 minutes after the session finished

Measurement Biases

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

Yes

No Ratings on the ABMI and Interact Short were completed by the treating therapists, who were not blind to the intervention or purpose of the study.

Recall or memory bias *If yes, explain.*

Yes It is possible that therapists remembered past ratings.

No

Others (list and explain):

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

Did the measures adequately measure the outcome(s)?

Yes It would have been beneficial to also have outcome measurements related to functional abilities, quality of life, or satisfaction of participants and/or their caregivers.

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 no statistically significant difference between Snoezelen and reminiscence sessions in level of agitation from pre-session to immediately post session ($p=0.18$), nor from pre-session to 15 minutes post session ($p=0.87$).

There was no significant difference between the two interventions in terms of change in mean heart rate during the session ($p=0.5$) or after the session ($p=0.24$).

There was no significant difference between the two interventions in the number of items on the Interact Scale showing positive change during the session ($p=0.11$) or negative change during the session ($p=0.88$).

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

Yes

No ✓ The authors state that the sample size was determined using a power analysis based on data from a pilot study. This determined that 16 people per group would be adequate to detect a change of 3 points on the main outcome (ABMI). However, the responses were very heterogenous and both groups improved, suggesting a large sample size may be required to detect a difference, if one exists.

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.

This study showed that both Snoezelen and reminiscence can have positive, short-term effects on mood and behavior in people with dementia, but Snoezelen was not shown to be more effective.

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.

From this study, it appears that Snoezelen is generally well-received in terms of agitated behaviors, and mood and behaviors, but not significantly more than reminiscence. In relation to specific occupational performance outcomes that are highlighted in the focused question, only communication was measured, and is not discussed in the results of this paper. It appears that Snoezelen and reminiscence might both be reasonable interventions to offer to people with dementia, with goals related to reducing agitation. However, in light of the focused question on perceptual interventions, only Snoezelen offers perceptual stimulation. Considering the costs associated with purchasing and installing Snoezelen, evidence from this study could not be used to justify its purchase. However, if it is already in place, it may be worthwhile to implement on a trial basis with clients with dementia.

This work is based on the evidence-based literature review completed in August 2005 by Lori Letts, PhD, OT Reg. (Ont.); Jacqueline Minezes, BSc (OT), OT Reg. (Ont.); Julie Berenyi, BHSc (OT) OT Reg. (Ont.); Mary Edwards, MHSc, 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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