



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?

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Ostaszkiwicz, J., Johnston, L., & Roe, B. (2004). Habit retraining for the management of urinary incontinence in adults. *The Cochrane Database of Systematic Reviews*, Issue 2. Art. No.: CD002801.pub2. DOI: 10.1002/14651858.CD002801.pub2.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

Incontinence is common for older adults living in long-term-care facilities, and behavioral strategies are often used to address it. These strategies include timed voiding, habit retraining, and prompted voiding. Habit retraining involves attending to the typical voiding patterns of the individual and establishing an individualized toileting schedule based on the person's typical behaviors to pre-empt incontinent events. However, the effectiveness of this strategy is not clear.

RESEARCH OBJECTIVE(S)

List study objectives.

To assess the effectiveness of habit retraining for the management of urinary incontinence in adults.

Describe how the research objectives address the focused question.

Habit retraining is a form of maintaining the habits or routines related to voiding for people with dementia. It is individualized based on the routines of each person. As such, it fits nicely with occupational therapy's client-centered philosophy, and represents an effort to establish client-centered rather than staff-centered care routines.

This publication is a report of a Cochrane Systematic Review, which is a standardized approach to searching, appraising, and conducting meta-analyses of high-quality evidence related to interventions. Since this is a systematic review, much of this worksheet cannot be completed (sections noted with *). However, see Results, Conclusions, and Clinical Implications for discussion of how this review contributes to the evidence-based review question. References of the articles included in the systematic review are also included.

DESIGN TYPE:

Systematic review

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

No

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

Inclusion Criteria

All randomized or quasirandomized trials of habit retraining for the management of urinary incontinence in adults.

Exclusion Criteria

*Sample Selection Biases: If yes, explain.

Volunteers/Referrals

Yes

No

Attention

Yes

No

Others (list and explain):

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***SAMPLE CHARACTERISTICS**

N =

% Dropouts

#/ (%) Male

#/ (%) Female

Ethnicity

Disease/disability diagnosis

Check appropriate group:

< 20/study group	20–50/study group	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)** —Included are only those interventions relevant to answering the evidence-based question.

Group 1

Brief Description	
Setting	
Who Delivered?	
Frequency?	
Duration?	

Intervention Biases: Explain, if needed.

Contamination

Yes

No

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:

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

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?

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

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

Total of three studies (randomized controlled trials – Level I) were included in the review. The sample described included one study with 113 older adults in a long term care facility (Colling, Ouslander, Hadley, Eisch, & Campbell, 1992), and two studies with 224 home-based community dwelling older adults (Colling, Owen, McCreedy, & Newman, 2002; Jirovec & Templin, 2001).

- Across the three studies, the average age was 80.3 years and primarily included women with cognitive and/or physical impairments who were dependent on caregivers.
 - Participants could not be blinded to the interventions. Blinding of assessors was unclear.
 - All studies located included habit retraining offered in concert with other interventions, for example, caregiver education, environmental modification, fluid intake modification.
 - All three studies reported problems with adherence to treatment protocols and data collection tools.
 - Of the 3 trials reviewed, data from one study (Colling et al., 1992) could not be completely analyzed because of reporting methods. Data from a second study showed nonsignificance between group differences in incontinent episodes (Colling et al., 2002), while data from the third study favored the intervention group with no statistically significant differences between groups (Jirovec & Templin, 2001). Colling et al. (2002) reported a statistically significant difference (within the intervention group) in skin rashes and skin breakdown; between-group analysis was not conducted.
- One trial included economic evaluation and based on an average reduction of one episode of urinary incontinence per day per participant, estimated savings were calculated at US\$230.00 per person per year (Colling et al., 2002). However, since there were no significant between-group differences in incontinent episodes, these reductions cannot be attributed to habit retraining interventions.
 - One trial evaluated caregiver burden and noted that caregivers reported the management of incontinence to be less stressful at the end of the intervention than at baseline, although there were no significant changes during the trial period (Colling et al., 2002).

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

Yes

No

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

Yes

No

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

Yes Data from the three included studies was handled appropriately in that the decision was made not to extract and combine data from the studies.

No

CONCLUSIONS

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

The review concludes that there are currently insufficient data to inform practice on the intervention of habit retraining for the management of urinary incontinence in adults. The quality of the trials was modest with poor reporting on levels of concealment to allocation, interventions, and outcome assessment as each trial had missing data, high attrition, and analyses based on complete cases rather than intention to treat analyses.

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.

While habit retraining fits very well with occupational therapy as a strategy to maintain routines for people with dementia, this systematic review did not find strong evidence to support or refute its adoption. The study did make observations about the difficulty of focusing solely on habit retraining, since it was combined with other strategies in all of the included studies. Further, the authors note that there were difficulties with high dropout rates, and adherence with baseline measurement. One study did note a significant decline in skin rashes and skin breakdown for participants in the intervention group, which may in turn have resulted in some economic benefits, although these were not examined in the study. It seems that the implementation of habit retraining requires commitment and resources by caregivers (formal or informal) to implement. Before considering this as an approach to maintaining routines for people with dementia, occupational therapists need to establish the willingness of the caregivers to participate in the intervention. This systematic review did not directly examine caregiver or client satisfaction, but reported on one trial that found that caregivers' stress with the management of incontinence was reduced after implementation of the habit training intervention. Caregivers willing to commit to habit retraining may experience reduced stress and then increased satisfaction and quality of life in coping with incontinence.

References from studies included in the review

Colling, J., Ouslander, J., Hadley, B. J., Eisch, J., & Campbell, E. (1992). The effects of patterned urge-response toileting (PURT) on urinary incontinence among nursing home residents. *Journal of the American Geriatrics Society*, *40*, 135–141.

Colling, J., Owen, T. R., McCreedy, M., & Newman, D. (2002). *The effects of a continence program on frail community dwelling elderly persons*. Manuscript in preparation. (CAP reviewers believe that this manuscript can be found in: *Urologic Nursing*, *23*(2), 117–122, 127–131.)

Jirovec, M. M., & Templin, T. (2001). Predicting success using individualized scheduled toileting for memory-impaired elders at home. *Research in Nursing and Health*, *24*(1), 1–8.

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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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