



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 establish, modify, and maintain activities of daily living (ADL), instrumental activities of daily living (IADL), leisure, and social participation on the quality of life, health and wellness, and client and caregiver satisfaction for persons with dementia?

Dooley, N., & Hinojosa, J. (2004). Improving quality of life for persons with Alzheimer's disease and their family caregivers: Brief occupational therapy intervention. *American Journal of Occupational Therapy*, 58, 561–569.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

The study examined the extent to which adherence to occupational therapy recommendations would increase quality of life of persons with AD living in the community and decrease the burden felt by family members caring for them. Behavioral and functional improvements in persons with AD can be made possible through OT interventions thus leading to improved quality of life and subsequently reducing the level of burden experienced by family caregivers.

RESEARCH OBJECTIVE(S)

List study objectives.

The study was guided by two research questions:

- To what extent will following occupational therapy recommendations, which are derived from Assessment of Instrumental Function (AIF) results, produce improvement in the quality of life of persons with Alzheimer's disease living in the community?
- To what extent will following these occupational therapy recommendations produce a decrease in the level of burden felt by caregivers of persons with Alzheimer's disease living in the community?

Describe how the research objectives address the focused question.

Through the implementation of OT strategies it is hypothesized that individuals with dementia will experience an improvement in their quality of life and family caregivers will demonstrate a decrease in their level of caregiver burden. The intervention implemented was based on the results of an assessment of instrumental activities of daily living. Therefore, the intervention is designed to improve IADL with outcomes related to quality of life, and fits directly with the focused question.

DESIGN TYPE:

Pre-test- Post test Control Group Design with random assignment to groups.

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 However, it is not clear why the study is not described by the authors as a randomized control design.

No

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

Inclusion Criteria

- Diagnosed with probable AD (must be within the mild to moderate stage)
- Participants lived in their own homes and had a caregiver who either lived with them or spent several hours per week with them
- Participants were not currently receiving OT services
- Had not been assessed with AIF in previous year
- MMSE > 10/30
- Caregiver agreed to participate
- Attended a university –affiliated outpatient memory disorders clinic

Exclusion Criteria

- Individuals demonstrating current symptoms of depression
- Individuals who began using Aricept within the previous 6 weeks

Sample Selection Biases: *If yes, explain.*

Volunteers/Referrals

Yes

No

Attention

Yes

No

Others (list and explain):

SAMPLE CHARACTERISTICS

N= 40

% 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
-----------------	---	--------------------	---------------------	---------------------

Sample Characteristics Bias: If no, explain.

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

Yes No differences between the groups on client age, MMSE score, number of comorbid conditions, PSMS scores, gender distribution or use of Aricept.

No

Were the reasons for the dropouts reported?

Yes No dropouts reported

No

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

Group 1- Intervention

Brief Description	OT Intervention: Assessment of Instrumental Function (AIF) was administered to person with AD, Affect and Activity Limitation-Alzheimer’s Disease Assessment (AAL-AD), Burden Interview, and Physical Self-Maintenance Scale (PSMS) were completed with caregiver. A report summarizing the findings and providing recommendations listed in order of importance was developed, listing top 5 recommendations. Recommendations were reviewed with patient and caregiver during a second home visit lasting 30 minutes. Written report was left for caregiver to implement. Recommendations included environmental modifications, caregiver approaches, and community-based assistance.
Setting	Participants’ home
Who Delivered?	Licensed Occupational Therapist
Frequency?	Baseline assessment completed once- then one 30 minute follow-up visit.

	Subsequent follow-up interview with caregiver for AAL-AD and PSMS at 1 month
Duration?	Follow-up was to be at one month but averaged 2.33 months with a range of 1-6 month.

Group 2- control

Brief Description	Baseline measures: AIF was administered to person with AD, AAL-AD and PSMS were completed with caregiver. A report summarizing the findings and providing recommendations listed in order of importance was developed, listing top 5 recommendations. No follow up visit by the occupational therapist to review and explain recommendations. (It is not clear if the reports were ever shared with the participants in the control group). Subsequent follow-up interview with caregiver for AAL-AD and PSMS at 1 month.
Setting	Participant and caregivers' home
Who Delivered?	Licensed Occupational Therapist
Frequency?	Baseline assessment completed once. Subsequent follow-up interview with caregiver for AAL-AD and PSMS at 1 month
Duration?	Follow-up was to be at one month but averaged 2.33 months with a range of 1-6 month.

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:

Assessment of Instrumental Function

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

Safety, medication administration, money management and meal preparation

Is the measure reliable (as reported in article)?

Yes

No

NR

NR = Not reported

Is the measure valid (as reported in article)?

Yes

No

NR

Name of measure:

The Zarit Burden Interview

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

Caregivers' perceptions of burden associated with various aspects of caring for family members with AD

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

Name of measure:

The Affect and Activity Limitation AD Assessment

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

The frequency with which the person with dementia engages in pleasurable activities and displays positive or negative affect

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

Name of measure:

The Physical Self Maintenance Scale

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

Self care status of participants with AD as a component of their quality of life

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?

Each measurement was used at pre-test followed by the implementation of the occupational therapy recommendations and then followed by post-test (1 month later) to indicate whether changes in quality of life and caregiver burden were evident.

Measurement Biases

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

Yes

No Since pretest assessment was conducted prior to randomization, it can be considered to be blind. However, it appears that the telephone follow up calls were made by an investigator not blind to group allocation.

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

Yes

No

Others (list and explain):

Follow-up was to be at 1 month, but ranged from 1-6 months (average 2.33 months) variation in follow-up time may have resulted in recall bias.

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

- Caregivers in the treatment group followed a mean of 65.1% of the five most important recommended OT strategies
- Using multiple analysis of covariance, significant group effects were found for caregiver burden, positive affect, activity frequency, and self-care status ($p < .001$).
- Bivariate analyses identified the contribution of each dependent variable to the overall effect, with caregiver burden ($p < .001$), positive affect ($p = .015$) and self-care status ($p = .03$) statistically significant, but activity frequency not statistically significant ($p = .58$).

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

No

CONCLUSIONS

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

Following OT recommendations, participants with probable AD exhibited increased quality of life status while their family caregivers demonstrated decreased caregiver burden.

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.

The study demonstrated an impact from an occupational therapy intervention that involved assessment, and follow up meeting with the occupational therapist to share and discuss recommendations. It is not clear how the investigators ensured implementation of or adherence to the therapist's recommendations. They had to trust the caregiver report. The recommendations are described but not in enough detail to be replicable. It is encouraging that a brief (30 minute) occupational therapy intervention following comprehensive assessment had some effect. This may be helpful in determining amount of OT intervention required. Note that the authors indicate that further study is required to clearly determine this.

This work is based on the evidence-based literature review completed by Lori Letts, PhD, OT Reg. (Ont.), Julie Berenyi, BSc (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.), Colleen O'Toole, MSc (OT), OT Reg. (Ont.), and Colleen McGrath, MSc (OT), OT Reg. (Ont.)

CAP Worksheet adapted from: Critical Review Form – Quantitative Studies ©Law, M., Stewart, D., Pollack, N., Letts, L., Bosch, J., & Westmorland, M., 1998, McMaster University. Used with permission.

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



Copyright © 2010 American Occupational Therapy Association, Inc. All rights reserved.
For personal or educational use only. All other uses require permission from AOTA.
Contact: copyright@aota.org