FOCUSED QUESTION
What is the effect of community occupational therapy on mood, quality of life, and health status of dementia patients and their informal caregivers, as well as on caregivers’ sense of control over life?


CLINICAL BOTTOM LINE:
The positive results for all measurement outcomes suggest that this study provides strong evidence and therefore furthers research on dementia patients and their caregivers. To the authors’ knowledge, this is the first study that found evidence for the effectiveness of community occupational therapy on mood, quality of life, and health status for patients with dementia and their informal caregivers. The intervention can be replicated by following the guidelines described in the study. The only foreseeable limitation to replicating this study is that no specific examples are given to illustrate what particular environmental and compensatory strategies were used during occupational therapy intervention sessions. However, the guidelines provide a strong framework that will enable occupational therapy intervention to be carried out. The specific results of this study support the inclusion of community occupational therapy in dementia management programs. These programs that include community occupational therapy can be developed with this study, and this study can be used as an educational tool and a prompt for further research.

RESEARCH OBJECTIVE(S)
List study objectives.

To investigate the effects of community occupational therapy on dementia patients’ and caregivers’ quality of life, mood, and health status, and caregivers’ sense of control over life.

DESIGN TYPE AND LEVEL OF EVIDENCE:
Randomized control trial; Level I
Limitations (appropriateness of study design):
Was the study design type appropriate for the knowledge level about this topic? Circle yes or no, and if no, explain.

[ ] YES [ ] NO

**SAMPLE SELECTION**
How were subjects selected to participate? Please describe.

Individuals ages 65 years or older were recruited from the Memory Clinic and Day Clinic of Department of Geriatrics of the University Medical Center, Nijmegen. All who were eligible received written and verbal information by the geriatrician and explanation and examples of the assessment instruments by the researcher. Informed consent was acquired from those who wished to participate. Patients were put into blocks of 4 based on level of dementia and randomized into intervention groups by a statistician who was not connected to the study.

**Inclusion Criteria**

Individuals ages 65 years or older who had been diagnosed with mild-to-moderate dementia were included. Severity of dementia was determined using the Brief Cognitive Rating Scale. Scores of 9–24 indicated mild dementia, and 25–40 indicated moderate dementia. Included participants also had to be living in the community and have a primary caregiver who cared for them at least once a week.

**Exclusion Criteria**

Individuals who scored greater than a 12 on the Geriatric Depression Scale were excluded from participation in the study. Individuals were also excluded if they were found to have severe behavioral or psychological symptoms in dementia, severe illnesses as judged by a geriatrician, or a lack of stable treatment by an anti-dementia drug. Individuals were also excluded if they could not define occupational therapy goals. In addition, caregivers with severe illnesses were excluded.

**SAMPLE CHARACTERISTICS**

*N = 135 patient–caregiver dyads*

<table>
<thead>
<tr>
<th>% Dropouts</th>
<th>2%</th>
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####/ (%) Male

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<tbody>
<tr>
<td>Intervention patients: 29 (43%)</td>
<td>Control patients: 31 (46%)</td>
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<tr>
<td>Intervention caregivers: 22 (32%)</td>
<td>Control caregivers: 18 (27%)</td>
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####/ (%) Female

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<tbody>
<tr>
<td>Intervention patients: 39 (57%)</td>
<td>Control patients: 36 (54%)</td>
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<tr>
<td>Intervention caregivers: 46 (68%)</td>
<td>Control caregivers: 49 (73%)</td>
</tr>
</tbody>
</table>
Ethnicity: NR
Disease/disability diagnosis: Mild-to-moderate dementia

Check appropriate group:
- <20/study group
- 20–50/study group
- 51–100/study group
- 101–149/study group
- 150–200/study group

**INTERVENTION(S) AND CONTROL GROUPS**

*Add groups if necessary.*

**Group 1**

**Brief Description**
A total of 68 patients were allocated to the occupational therapy group. Of those, 61 received occupational therapy. The first 4 sessions taught patients and informal caregivers to choose and prioritize meaningful activities through the use of 3 client-centered narrative interview instruments: Occupational Performance History Interview–II for the patient, ethnographic interview for the caregiver, and the Canadian Occupational Performance Measure for both. In the first 4 sessions, the occupational therapist also observed the patient’s ability to perform relevant daily activities and used compensatory strategies to adapt these activities. Environmental strategies were used to adapt the patient’s environment. Supervision skills of the caregivers were also observed. The last 6 sessions were used to teach patients to optimize these strategies to improve performance. Informal caregivers learned effective supervision, problem solving, and coping strategies through cognitive and behavioral interventions.

**Setting**
Home.

**Who Delivered?**
Occupational therapists trained for 80 hours with 240 hours of experience delivering treatment according to the client-centered guideline for patients with dementia.

**Frequency?**
2 times per week for 1 hour each.

**Duration?**
5 weeks.

**Group 2**

**Brief Description**
A total of 67 patients were randomized to the control group; 59 received the control group intervention of usual care. Control group participants received occupational therapy at the end of the study.

**Setting**
NR

**Who Delivered?**
NR

**Frequency?**
NR

**Duration?**
NR
**Intervention Biases:** *Circle yes or no and explain, if needed.*

Contamination

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<th>YES</th>
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Co-intervention

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<th>YES</th>
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Timing

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<th>YES</th>
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Site

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<th>YES</th>
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Use of different therapists to provide intervention

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The number of therapists was NR (although multiple therapists were referenced), and it was unclear whether therapists saw the same clients throughout the intervention.

**MEASURES AND OUTCOMES**

Complete for each relevant measure when answering the evidence-based question:

Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article—yes/no/NR [not reported]), and how frequently the measure was used.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Outcome</th>
<th>Reliability/Validity</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Dementia Quality of Life (DQoL)</td>
<td>Quality of life</td>
<td>NR</td>
<td>baseline, 6 weeks (post-treatment), 12 weeks (follow-up)</td>
</tr>
<tr>
<td>General Health Questionnaire (GHQ–12)</td>
<td>Health status</td>
<td>NR</td>
<td>baseline, 6 weeks (post-treatment), 12 weeks (follow-up)</td>
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<tr>
<td>Cornell Scale for Depression (CSD)</td>
<td>Depression</td>
<td>NR</td>
<td>baseline, 6 weeks (post-treatment), 12 weeks (follow-up)</td>
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<tr>
<td>Center for Epidemiologic Depression Scale (CES–D)</td>
<td>Mood</td>
<td>NR</td>
<td>baseline, 6 weeks (post-treatment), 12 weeks (follow-up)</td>
</tr>
<tr>
<td>Mastery Scale</td>
<td>Sense of control</td>
<td>NR</td>
<td>baseline, 6 weeks (post-treatment), 12 weeks (follow-up)</td>
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</table>

**Measurement Biases**

Were the evaluators blind to treatment status? *Circle yes or no, and if no, explain.*

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<th>YES</th>
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Yes, this was a single-blinded randomized control trial. However, blinding of the assessors was checked, and 18% of the assessors ended the study knowing the treatment allocation.
Recall or memory bias. *Circle yes or no, and if yes, explain.*

\[\text{YES/NO}\]

**RESULTS**
List results of outcomes relevant to answering the focused question. Include statistical significance where appropriate ($p < 0.05$). Include effect size if reported.

**Overview**
All overall scores at 6 and 12 weeks differed significantly between the intervention and control groups. Patients and informal caregivers who received occupational therapy improved significantly relative to baseline as compared to controls on overall quality of life, health status, and mood. The same results occurred for control over life for caregivers.

**Quality of Life**
A total of 49% of patients and 54% of caregivers in the intervention group achieved a clinically relevant improvement in overall quality of life, as compared with 17% of patients and 15% of caregivers in the control group after 6 weeks. The effect size for those improvements was 1.3 for patients and 1.2 for caregivers.

A total of 46% of patients and 55% of caregivers in the intervention group achieved a clinically relevant improvement in overall quality of life, as compared to 20% of patients and 15% of caregivers in the control group after 12 weeks. The effect size for those improvements was 1.1 for patients and 1.5 for caregivers.

The means for patient DQoL at 6 and 12 weeks were 4.0 for the intervention group, indicating a positive change from a baseline of 3.4 and the maintenance of effects. The means for patient DQoL at 6 and 12 weeks were 3.1 for the control group, indicating a slightly negative change from a baseline of 3.3.

The means for caregiver DQoL at 6 and 12 weeks were 4.0 and 4.1, respectively, for the intervention group, indicating a positive change from a baseline of 3.3. The means for caregiver DQoL at 6 and 12 weeks were 3.4 for the control group, indicating no change from a baseline of 3.4.

**Health Status GHQ–12**
The means for patient health status at 6 and 12 weeks were 7.8 and 9.1, respectively, for the intervention group, indicating a positive change from a baseline of 10.7. The means for patient health status at 6 and 12 weeks were 11.8 and 14.0, respectively, for the control group, indicating an initially positive but overall negative change from a baseline of 12.3.

The means for caregiver health status at 6 and 12 weeks were 7.0 and 7.1, respectively, for the intervention group, indicating a positive change from a baseline of 12.0. The means for caregiver health status at 6 and 12 weeks were 11.0 and 12.1, respectively, for the control group, indicating an initially positive but overall negative change from a baseline of 11.3.

Effect size for health status changes was 0.8 for patients and 1.3 for caregivers.
Mood CSD and CES–D
The means for patient mood at 6 and 12 weeks were 6.5 and 6.2, respectively, for the intervention group, indicating a positive change from a baseline of 8.3. The means for patient mood at 6 and 12 weeks were 9.2 for the control group, indicating a slightly negative change from a baseline of 8.1.

The means for caregiver mood at 6 and 12 weeks were 5.8 and 5.4, respectively, for the intervention group, indicating a positive change from a baseline of 11.7. The means for caregiver mood at 6 and 12 weeks were 12.6 and 13.1, respectively, for the control group, indicating a negative change from a baseline of 11.4.

Effect size for mood changes was 0.7 for patients and 1.3 for caregivers.

Mastery Scale--Sense of Control
The means for caregiver sense of control at 6 and 12 weeks were 16.6 and 16.7, respectively, for the intervention group, indicating a positive change from a baseline of 12.6. The means for caregiver sense of control at 6 and 12 weeks were 12.6 and 12.3, respectively, for the control group, indicating a slightly positive change from a baseline of 12.0.

The effect size for improvements in caregivers’ sense of control was 1.6.

Was this study adequately powered (large enough to show a difference)? Circle yes or no, and if no, explain.

YES NO

Were appropriate analytic methods used? Circle yes or no, and if no, explain.

YES NO

Were statistics appropriately reported (in written or table format)? Circle yes or no, and if no, explain.

YES NO

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

Community occupational therapy is a successful intervention that results in improved quality of life, health status, and mood by improving daily function at large. In addition, community occupational therapy has positive effects on the informal caregivers by teaching skills that increase sense of control. Given the study methods, this study concludes that community occupational therapy is more effective in dementia management programs than dementia management programs without it. One limitation of this study is all participants were primarily recruited from the outpatient clinics of the memory clinic linked to a university hospital and not from other institutions or directly from general practice. Further studies that represent a more general population of patients with mild-to-moderate dementia may reinforce the results found in this study.
This work is based on the evidence-based literature review completed by Kaitlin Kinman, OTS, and Rebecca M. Aldrich, PhD, OTR/L, Faculty Advisor, St. Louis University.


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