CRITICALLY APPRAISED PAPER (CAP)

FOCUSED QUESTION
Is an individualized occupational therapy program more effective in modulating mood disturbances and functional deficits than general skills training for patients with dementia?


CLINICAL BOTTOM LINE:
This study presents evidence that individualized occupational therapy programs can benefit persons with dementia by modulating mood symptoms. By designing an intervention that is centered on activities that are important to the participants, depression and apathy scores can be reduced. This has practical evidence for occupational therapists by providing evidence that delivering client-centered and occupation-focused care can reduce mood symptoms for clients with dementia. Additional research should be done to develop functional skills intervention for persons with dementia.

RESEARCH OBJECTIVE(S)
List study objectives.

To determine whether an individualized training program has a greater impact on depressive mood than general occupational therapy and whether a personalized approach has a greater impact on functional skills.

DESIGN TYPE AND LEVEL OF EVIDENCE:
Randomized controlled 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.

Subjects were recruited from social centers and elderly homes in the New Territories East region of Hong Kong from October 2006 to October 2007. Before the start of the trial, each participating center held a briefing program. The staff at each facility screened for potential participants. A geriatric psychiatrist, who was a part of the research team, obtained informed consent from either the participant themselves or a first-degree relative before being randomly selected for either the experimental or control group. Additional consent was needed from the superintendents for participants in residential homes. The study was approved by the institutional ethical review board.

Inclusion Criteria
To be included in the study, participants needed to have a diagnosis of dementia meeting the criteria for the DSM–IV. Participants must have mild or moderate dementia to be included. This was assessed by the research team psychiatrist using the clinical dementia rating.

Exclusion Criteria
Participants whose communication and language was greatly impaired and who were bed bound were excluded from the trial.

SAMPLE CHARACTERISTICS
\[ N = 74 \]

| % Dropouts | 23% |
| #/ (%) Male | 19/ (26%) |
| #/ (%) Female | 55/ (74%) |
| Ethnicity | 100% Chinese |
| Disease/disability diagnosis | Dementia, \( N = 100 \) |

Check appropriate group:

<table>
<thead>
<tr>
<th>&lt;20/study group</th>
<th>20–50/study group</th>
<th>51–100/study group</th>
<th>101–149/study group</th>
<th>150–200/study group</th>
</tr>
</thead>
</table>

INTERVENTION(S) AND CONTROL GROUPS
*Add groups if necessary*

Group 1

<table>
<thead>
<tr>
<th>Brief Description</th>
<th>The control group were trained on appropriate activities related to the severity of cognitive impairment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>NR</td>
</tr>
</tbody>
</table>
Frequency? 2 times per week for 45 minutes each.
Duration? 8 weeks.

Group 2

<table>
<thead>
<tr>
<th>Brief Description</th>
<th>The intervention group received training that was tailored for their function and skills, including skills training and problem solving using a cognitive behavioral approach.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>NR</td>
</tr>
<tr>
<td>Frequency?</td>
<td>2 times per week for 45 minutes each.</td>
</tr>
<tr>
<td>Duration?</td>
<td>8 weeks</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Contamination</th>
<th>YES/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-intervention</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Timing</td>
<td>YES/NO</td>
</tr>
</tbody>
</table>

During length of study, 12 participants deteriorated or passed away. This information may affect assessment and comparison groups at follow-up.

<table>
<thead>
<tr>
<th>Site</th>
<th>YES/NO</th>
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</thead>
</table>

Use of different therapists to provide intervention

<table>
<thead>
<tr>
<th>YES/NO</th>
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</table>

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.

Primary Outcome Measures

The Chinese Disability Assessment for Dementia (DAD) measures functional performance by measuring dimensions, including initiation, planning, and organization, and effectiveness; validity and reliability NR; scored once prior to assessment, 1 month after assessment, and again 4 months after assessment.
The Assessment of Motor and Process Skills (AMPS) measures motor and processing functional performance required for activities of daily living; validity and reliability NR; scored once prior to assessment, 1 month after assessment, and again 4 months after assessment.

Cornell Scale for Depression in Dementia (CSDD) measures somatic and affective symptoms associated with depression in subjects with dementia; validity and reliability NR; scored once prior to assessment, 1 month after assessment, and again 4 months after assessment.

Neuropsychiatric Inventory (NPI) measures neuropsychiatric symptoms in individuals with neurodegenerative disorders; validity and reliability NR; scored once prior to assessment, 1 month after assessment, and again 4 months after assessment.

Secondary Outcome Measures
Cantonese version of Mini-Mental State Examination (MMSE) measures global cognitive functions; validity and reliability NR; scored once prior to assessment, 1 month after assessment, and again 4 months after assessment.

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

YES/NO

Recall or memory bias. Circle yes or no, and if yes, explain.

YES/NO

Others (list and explain):

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

Differences in functional and global cognitive function
At 1 month post intervention, significant improvements in AMPS processing skills were found in both intervention (I) and control (C) groups (I group, paired t = 2.6, p = 0.01, C group, paired t = 2.7, p = 0.07). The DAD total scores and AMPS motor skills were not significantly different than baseline scoring. At 4 months post intervention, MMSE deterioration was found in I group (paired t = 2.9, p = 0.007). AMPS also deteriorated in both groups (paired t tests, p < 0.01).

Differences in affective symptoms
At 1 month, postintervention reports showed significant improvement for the I group in
NPI-apathy scores but not in the C group (I group, paired t, p = 0.04, C group, paired t =0.06). A trend in improvement of depressive symptoms was also seen in the I group (paired t, NPI-depression, p = 0.06; CSDD, p = 0.07). From month 1 to 4 post intervention, there was a rebound of apathy and further decrease of CSDD scores (NPI apathy, t = 27, p = 0.01; CSDD, t=2.6, p = 0.02). These responses were not observed in the control group.

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

**YES**

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

**YES**

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

**YES**

**CONCLUSIONS**

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

The results showed that implementing an individualized program can cause a trend of improved depressive mood. This is shown in the decrease of NPI-depression scores at 1 month post intervention that continued to the final 4-month assessment. The results also show that apathy reduced more significantly in with the individualized program. Although apathy rebounded after completing the intervention, the effects of the individualized program on depression and apathy show potential for benefits to persons with dementia.

Results showed that there was a trend of improvement in the process skills of daily activities for both groups. However, these skills deteriorated after completion of training. This suggests that continual functional training may have therapeutic benefits of enhancing functional skills for persons with dementia.

This work is based on the evidence-based literature review completed by Samantha Kolakowski, OTS, and Patricia Scott, PhD, MPH, OT, FAOTA, Faculty Advisor, Indiana University–Purdue University Indianapolis.


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