Community-based occupational therapy improved daily functioning in older patients with dementia

Graff MJ, Vernooij-Dassen MJ, Thijssen M, et al. **Community based occupational therapy for patients with dementia and their care givers: randomised controlled trial.** BMJ. 2006;333:1196.

Clinical impact ratings: Mental Health ★★★★★★☆ GIM/FP/GP ★★★★★☆☆ Geriatrics ★★★★★★☆ Occup/Envir Health ★★★★★★☆

QUESTION

In older patients with dementia, does community-based occupational therapy (OT) improve daily functioning?

METHODS

Design: Randomized controlled trial.
Allocation: {Concealed}†.*
Blinding: Blinded {data collectors, data analysts, data safety monitoring committee, and manuscript writers}†.*
Follow-up period: 12 weeks.
Setting: Memory and day clinics of a geriatrics department and patients' homes in Nijmegen and the surrounding area, the Netherlands.
Patients: 135 patients ≥ 65 years of age (mean age 78 y, 56% women) who had mild-to-moderate dementia, were living in the community, and were visited by primary caregivers weekly. Exclusion criteria included scores > 12 on the geriatric depression scale, severe behavioral or psychological symptoms in dementia, severe illness judged by a geriatrician, and < 3 months of treatment with the same dose of a cholinesterase inhibitor or memantine.
Intervention: 10 one-hour sessions of OT at home over 5 weeks (n = 68) or no OT (n = 67). OT was given by trained, experienced therapists using a client-centered guideline for patients with dementia. In the first 4 sessions, patients and caregivers prioritized activities to improve, and therapists evaluated options to modify patients' home and environment, observed patients' ability to perform activities of daily living (ADLs) using compensatory and environmental strategies, and observed caregivers' supervisory skills. In the next 6 sessions, patients were taught to optimize these strategies to improve performance of ADLs, and caregivers were trained in supervisory, problem-solving, and coping strategies to sustain patients' and their own autonomy and social participation.
Outcomes: Motor and process skills and deterioration in ADLs in patients and competence in caregivers.
Patient follow-up: 114 patients (84%) were followed up at 6 weeks. Follow-up at 12 weeks was 78% (intention-to-treat analysis).

MAIN RESULTS

At 6 weeks, patients in the OT group had better motor and process skills and less deterioration in ADLs than did those in the no-OT group (Table). Caregivers in the OT group had higher competence scores than did those in the no-OT group (Table). Outcomes at 12 weeks are not reported here (< 80% follow-up).

CONCLUSION

Community-based occupational therapy improved daily functioning in older patients with dementia and improved competence in caregivers.

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*See Glossary.
†Information provided by author.

Occupational therapy (OT) vs no OT in older patients with dementia and their caregivers at 6 weeks‡

Outcomes	OT	No OT	Adjusted difference between groups (95% CI)§	NNT (CI)
Mean AMPS process scale score	1.2	0.2	1.5 (1.3 to 1.7)	2 (2 to 2)
Mean IDDD performance scale score	14	25	–12 (–14 to –10)‖	2 (2 to 2)
Competence of caregivers (mean SCQ score)	105	88	11 (9.2 to 13)	3 (3 to 3)

‡AMPS = Assessment of Motor and Process Skills; IDDD = Interview for Deterioration in Daily living activities in Dementia; SCQ = Sense of Competence Questionnaire. Other abbreviations defined in Glossary.
§Adjusted for age, sex, relation to patient, other caregivers, and baseline scores on comorbidity, depression, cognition, behavior scales, and outcome.
‖Lower scores indicate better performance.

COMMENTARY

The primary outcome in the study by Graff and colleagues rated patient performance on such process skills as organizational ability for ≥ 2 tasks chosen by patients or caregivers that were relevant to ADLs. Standardized scoring adjusted for the number and difficulty of tasks plus rater differences. Scores > 1.3 logits are necessary for independent living, while scores between 0.7 and 1.3 indicate borderline dependence (1). Graff and colleagues calculated response rates based on 0.5 logit as the threshold for clinically meaningful change. This cut point is large enough to capture transitions from mild dependence to full independence in persons with mild dementia, but its validity in advanced dementia is unknown. After 12 weeks, the OT group improved by a mean of 1.0 to 1.2 logits.

The ability of patients and caregivers to select tasks to work on with the occupational therapist that resembled tasks chosen for their baseline Assessment of Motor and Process Skills (AMPS) score may have inflated the beneficial effects of the intervention. In a broader context, targeting outcomes relevant to patients and caregivers, as is done with AMPS and Goal Attainment Scaling (2), may help resolve the controversy over the meaningfulness of effect sizes in dementia clinical trials.

Much of the sustained benefit of OT at 12 weeks can probably be attributed to caregivers' application of learned strategies. Given the high cost of OT, the sustainability of its effects over the long term, its generalizability to different populations, its efficacy in more advanced dementia, and its ability to reduce institutionalization require further study.

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References

1. **Doble SE, Fisk JD, Rockwood K.** Assessing the ADL functioning of persons with Alzheimer's disease: comparison of family informants' ratings and performance-based assessment findings. Int Psychogeriatr. 1999;11:399-409.
2. **Rockwood K, Fay S, Song X, et al.** Attainment of treatment goals by people with Alzheimer's disease receiving galantamine: a randomized controlled trial. CMAJ. 2006;174:1099-105.