AOTA Evidence Briefs
Older Adults

**A product of the American Occupational Therapy Association's Evidence-Based Literature Review Project*

OA#1

Functional rehabilitation combined with reactivating occupational therapy is more effective than functional rehabilitation alone in improving cognitive performance, psychosocial functioning, and contentedness for geriatric patients with dementia.

Bach, D., Bach, M., Böhmer, F., Frühwald, T., & Grilc, B. (1995). Reactivating occupational therapy: A method to improve cognitive performance in geriatric patients. *Age and Aging, 24,* 222–226.

Level: IA1b

Randomized control trial, 20 or more participants per condition, high internal validity, moderate external validity

Why research this topic?

Clinical practice has suggested that occupational therapy interventions aimed at improving an older adult's mental mobility, quality of life, and contentment are useful. However, research to support this idea is lacking.

What did the researchers do?

Bach and her colleagues (1995), variously affiliated with Allgemeine Poliklinik der Stadt Wien, the University of Vienna, and the Haus der Barmherzigkeit Institute for Geriatric Long-term Therapy (all in Vienna, Austria), tested the effectiveness of a combination of reactivating occupational therapy and functional rehabilitation with the effects of functional rehabilitation alone. "Reactivating occupational therapy" is therapy aimed at "improving a subject's mental mobility by restoring capacity for decison-making and control in performing daily activities" (p. 222).

The participants in the study were 44 geriatric patients consecutively admitted to the Haus der Barmherzigkeit Institute for Geriatric Long-term Therapy. Five were men, 39 women. Their average age was 83.4 years. All met the criteria for slight to moderate dementia according to the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed. rev.).

The researchers randomly assigned the participants to one of two groups: a control group and a study group. The control group received functional rehabilitation (occupational therapy, physical therapy, and speech therapy) for 24 weeks (frequency and daily duration not reported). The study group received functional rehabilitation for 24 weeks and reactivating occupational therapy twice a week (1 hour at a time) for 24 weeks in small groups (5–6 participants per occupational therapist). The latter intervention consisted of memory training, activities to improve **sensorimotor** (see *Glossary*) functions (functions involving integration of sensory input and motor activity), and instruction in self-management.

The outcome areas of interest were *cognitive, affective, social, and physical functions* (as measured by the Clinical Assessment Geriatric Scale); depression (as measured by the Hamilton Depression Rating Scale and the Depression Status Inventory); *well-being* (as measured by the Scale of Well-Being); *visual retention* (as measured by the Benton Test); *acquisition of information and immediate recall* (as measured by the Grünberger Verbal Memory Test); *speed of cognitive performance* (as measured by the Number Association Test of the Nuremberg Aged Persons Inventory); *acquisition of information and association with memory contents* (as measured by the Number

Symbol Test of the Nuremberg Aged Persons Inventory); and *passive acquisition and retention of verbal, visual, and motor information* (as measured by the Latent Learning Test of the Nuremberg Aged Persons Inventory). Assessments were made before the intervention, after 12 weeks of treatment, and after 24 weeks of treatment.

What did the researchers find?

After 12 weeks the two groups together had **significantly** (*see Glossary*) improved their cognitive, affective, social, and physical functions (as measured by the Clinical Assessment Geriatric Scale); their depression (as measured by the Hamilton Depression Rating Scale and the Depression Status Inventory); and their passive acquisition and retention of verbal, visual, and motor information (as measured by the Latent Learning test). After 24 weeks they had significantly improved their depression (as measured by the Depression Status Inventory); their visual retention (as measured by the Benton Test); their cognitive performance (as measured by the Grunberger and Latent Learning tests); and their visuomotor coordination (as measured by the Number Symbol Test).

After 12 weeks the study group showed significantly better cognitive performance (as measured by the Grunberger, Number Symbol, and Latent Learning tests) than the control group. It also showed significantly better cognitive, affective, social, and physical functions (as measured by the Clinical Assessment Geriatric Scale).

After 24 weeks the study group showed significantly better cognitive performance (as measured by the Benton, Grunberger, the Number Symbol, and Latent Learning tests) than the control group. It also showed significantly improved cognitive, affective, social, and physical functions and subjective well-being and significantly less depression (as measured by the Clinical Assessment Geriatric Scale, the Hamilton Depression Rating Scale, the Depression Status Inventory, and the Scale of Well-Being).

What do the findings mean?

For therapists and other providers, the findings suggest that functional rehabilitation combined with reactivation is more effective than functional rehabilitation alone in improving cognitive performance, **psychosocial** (see *Glossary*) functioning, and contentedness for geriatric patients with dementia.

What are the study's limitations?

The study has several limitations that may limit the generalizability of its findings. First, the large age range of the participants (65–95 years) may have resulted in differences within and between individuals during the intervention. Second, in the assessment conducted before the intervention, the participants' scores on the depression scales were elevated. All had been admitted to the long-term care institution within the 2 weeks before the study began, and that may have affected their mental health and their cognitive performance.

Glossary

psychosocial—"involving both psychological and social aspects" (*Merriam Webster's Collegiate Dictionary*, 10th ed., s.v.)

sensorimotor—"of, relating to, or functioning in both sensory and motor aspects of bodily activity" (*Merriam Webster's Collegiate Dictionary*, 10th ed., s.v.)

significance (or significant)—A statistical term, this refers to the probability that the results obtained in the study are not due to chance, but to some other factor (such as the treatment of interest). A significant result is one that is likely to be generalizable to populations outside the study.

Significance should not be confused with clinical effect. A study can be statistically significant without having a very large clinical effect on the sample. For example, a study that examines the effect of a treatment on a client's ability to walk may report that the participants in the treatment group were able to walk significantly longer distances than the control. However, if you read the study you may find that the treatment group was able to walk, on average, 6 feet, while the control group was able to walk, on average, 5 feet. While the outcome may be statistically significant, a clinician may not believe that a 1 foot increase will make his or her client functional.

■ Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

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For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040.