



AOTA Evidence Briefs

Multiple Sclerosis

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

MS #4

Intensive inpatient therapy to improve mobility for persons with chronic multiple sclerosis

Fuller, K. J., Dawson, K., & Wiles, C. M. (1996). Physiotherapy in chronic multiple sclerosis: A controlled trial. *Clinical Rehabilitation, 10*, 195–204.

Level IA2a

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

Clinical bottom line

A 2-week course of inpatient physiotherapy, the British term for physical therapy, for people with multiple sclerosis **significantly** (see *Glossary*) improved their subjective feelings about mobility and distress, but it did not significantly improve their actual mobility or their manual dexterity. However, a trend in the study suggested that inpatient physiotherapy was better than no treatment for improving mobility.

Sample

The participants in the study were 45 recent outpatients of a neurological clinic: 11 men and 34 women. Their average age was 46.5 years. All had a diagnosis of multiple sclerosis and recent deterioration in their ability to walk or to transfer to and from a wheelchair. Further, the clinic physician had judged that they had the potential to benefit from a period of physiotherapy. Patients with other disabling medical or surgical conditions were excluded.

To obtain a control group without denying physiotherapy to anyone, the researchers assigned the participants to early or late inpatient treatment. They used a process that assured two groups balanced for potentially important variables such as age, sex, mobility level, and recent relapse.

Procedures

All patients were assessed at home during the first week of the study, then assigned to the early or the late group. At the 5th week, the early group was admitted to Rookwood Hospital (Cardiff, Wales) for 2 weeks. At the 9th week, both groups were again assessed at home. At the 13th week, the late group was admitted to the same hospital for 2 weeks. A second reassessment of both groups occurred at the 17th week. A research physiotherapist conducted all the assessments.

The treatment, delivered by physiotherapists, consisted of 30 minutes of physiotherapy for about 14 days, for an average total of 6.9 hours per early-group participant, and 6.5 hours per late-group participant.

feet, whereas the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not believe that a 1-foot increase will improve his or her client's function.

treatment specification—One of the goals of research is to ensure that any results can be replicated by others. In addition, clinician who are going to use researched protocols as part of their treatment need enough information about the treatment to implement it. Many treatment studies fail to clearly state the treatment intervention received by the experimental group, making replication and clinical application impossible.

validity and reliability of instruments—Researchers rely on instruments, often referred to as outcome measures, to define whether and how their participants are improving. Outcome measures can be surveys, checklists (such as the FIMSM), or measurements of the clinical behaviors expected (such as walking speed). An important quality of any outcome measure is that it is valid and reliable. A valid measure is one that is actually measuring what the researcher says it's measuring. A reliable measure is one that gets similar results over time and among individual evaluators, and that is accurate. Unreliable tests may inflate, reduce, or mask treatment effects, whereas invalid tests provide no information about the outcomes of interest. There are psychometric tests designed to establish reliability and validity of tests. Study authors should provide reliability and validity information if it is available so readers can judge whether an outcome measure is valid and reliable.

■ 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).

This work is based on the evidence-based literature review completed by Nancy Baker, ScD, OTR, and Linda Tickle-Degen, PhD, OTR/L, FAOTA.

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.

