



AOTA Evidence Briefs

Multiple Sclerosis

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

MS #18

Seeing an occupational therapist may be a significant factor in a person with multiple sclerosis possessing an assistive device

Finlayson, M., Guglielmello, L., & Liefer, K. (2001). Describing and predicting the possession of assistive devices among persons with multiple sclerosis. *American Journal of Occupational Therapy, 55*, 545–551.

Level: IIIA2a

Non-randomized control trial—one group (one treatment) pretest and posttest, 20 or more participants per condition, moderate internal validity, high external validity.

Why research this topic?

Occupational therapists use assistive devices to help their patients be independent. Research on the use of such devices has targeted people with chronic conditions, but multiple sclerosis (MS) has not been among the conditions studied. Yet multiple sclerosis often creates progressive disability.

What did the researchers do?

Finlayson, Guglielmello, and Liefer (2001), affiliated with the University of Illinois at Chicago, RehabPlus Staffing Group (Largo, Maryland), and Pinecrest Rehabilitation Hospital (Delray Beach, Florida), respectively, investigated the types of assistive devices used by people with multiple sclerosis and the factors that best predicted their using such devices.

Members of the Multiple Sclerosis Society of Canada were asked to participate in a mail survey funded by the society. A total of 1,085 surveys were returned for a 36% response rate. One hundred seventy-nine of the respondents were reported to not have MS and were eliminated from the analysis, for a total of 906 participants. Two hundred fifty-two of the participants were men, and 654 were women. The average age was 36.5 years. The researchers excluded 24 participants in the analysis of assistive devices because of incomplete information, reducing the sample to 882. Among the questions asked in the survey were the types of assistive devices the respondents currently possessed, whether the respondents owned or rented the devices, and how long the respondents had had them. Other questions sought information on **demographic** (see *Glossary*) variables, health status, work and financial situations, current symptoms, and activity limitations.

The outcome areas of interest were *types of assistive devices possessed* (as reported by the survey respondents) and *factors predicting the use of assistive devices* (as indicated by analysis of survey data).

What did the researchers find?

Of the remaining 882 respondents, 441 (50%) did not own or rent any assistive devices, and another 14 (1.6%) had rented such devices in the past but currently did not possess any. The remaining 427 (48.4%) respondents possessed an average of 3.4 devices. The items that they most commonly reported were manual wheelchairs (61.1%), grab bars (50.1%), other mobility aids (44.7%), and walkers (39.1%).

In an analysis that examined the factors predicting use of assistive devices, all that were related to greater disability—use of occupational therapy, a progressive type of multiple sclerosis, more activity limitations, and more symptoms—were independently and **significantly** (see *Glossary*) associated with use of devices. Also, more years since diagnosis was significantly associated with the use of assistive devices. Working was **not significantly** (see *Glossary*) associated.

What do the findings mean?

For therapists and other providers, the findings suggest that seeing an occupational therapist is a significant factor in a person with multiple sclerosis possessing an assistive device. A limitation of all cross-sectional studies is that one is not able to indicate the temporal relationship between the two factors. That is, it does not indicate which event came first. Nor does it indicate the temporal relationship between seeing an occupational therapist and having more symptoms and more activity limitations.

The finding that people with multiple sclerosis who work are not likely to be using assistive devices raises “questions about if and when occupational therapy workplace evaluations are being done” with people who have multiple sclerosis (p. 550). Such evaluations may occur after people have left the workplace, or not at all. According to the authors, it is also possible that those individuals that are working are less disabled, and thus less likely to use assistive devices. Finally, the findings suggest that people with multiple sclerosis possess devices similar to those possessed by people with other chronic diseases and conditions.

What are the study’s limitations?

The study has two limitations. First, although the size of the sample was large, the rate of response to the survey was low, indicating that the sample may not be representative. Second, the study looked at relationships at a moment in time, rather than over time; it did not reveal important information related to time—for example, whether seeing an occupational therapist occurred before or after use of an assistive device.

Glossary

demographic—Relating to humans in general.

nonsignificant (or no significance)—A statistical term that refers to study findings that are likely to be due to chance differences between the groups rather than to other factors (e.g., the treatment of interest). A nonsignificant result cannot be generalized outside the study. Like significance, a nonsignificant result does not indicate the clinical effect. Often studies will show nonsignificant results, yet the treatment group’s mean will be better than the control group’s. This is usually referred to as a trend in the right direction. Because significance is closely determined by sample size, nonsignificant results would often become significant if the sample size were increased.

significance (or significant)—A statistical term that refers to the probability that the results obtained in the study are not due to chance, but to some other factor (e.g., the treatment of interest). A significant result is likely to be able to be generalized 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 those in the control group. However, after reading the study one may find that the treatment group was able to walk, on average, 6 feet, whereas the control group was able to walk, on average, 5 feet. Although the outcome may be statistically significant, a clinician may not feel that a 1-foot increase will make his or her client functional.

This work is based on the evidence-based literature review completed by Vidyalakshmi Sundar, BS, and Marian Arbesman, PhD, OTR/L.

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.



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