International Handbook of Occupational Therapy Interventions

Chapter 23
Delivering Energy Conservation Education by Teleconference to People with Multiple Sclerosis

Marcia Finlayson

The program broke things down into simple basic things that I could do to manage my fatigue—things I didn't think about before the course.

—Participant

Abstract Fatigue is one of the most common and disabling symptoms reported by people with multiple sclerosis (MS). Teaching people with MS how to manage their fatigue using energy conservation strategies is an important role for occupational therapists (OTs). Typically, these strategies are taught face to face, either in groups or on a one-to-one basis. For some people with MS, traveling to a location for this education is difficult. Therefore, teleconference delivery can be a viable option.

Keywords Multiple sclerosis • Self-management • Tele-health

Background

Fatigue is reported by 75% to 90% of people with multiple sclerosis (MS), making it one of the most common symptoms of the disease (Multiple Sclerosis Council for Clinical Practice Guidelines [MS Council], 1998). People with MS have described fatigue as frustrating, overwhelming, immobilizing, and disabling (Holberg and Finlayson, 2007; McLaughlin and Zeeberg, 1993). The MS Council (1998) defined fatigue as "a subjective lack of physical and/or mental energy that is perceived by the individual or caregiver to interfere with usual and desired activities" (p. 2).

Energy conservation education is a key part of comprehensive fatigue management in MS and is one of the primary roles of the occupational therapist (OT) on the MS care team. Energy conservation education teaches people with MS to examine their energy use and modify activities to reduce fatigue (MS Council, 1998). These modifications can occur at the level of the person, the environment, or the activity itself.

Improvements in fatigue impact, quality of life, self-efficacy for managing fatigue, and the use of energy conservation strategies have been demonstrated through face-to-face delivery of the energy conservation education program "Managing

I. Söderback (ed.), *International Handbook of Occupational Therapy Interventions*,
DOI: 10.1007/978-0-387-75424-6_23,

Fatigue" (Mathiowetz et al., 2005, 2007; Matuska et al., 2007; Packer et al., 1995). A group teleconference version of the program was developed in response to requests by clients with MS (Finlayson, 2005).

Purpose

The purpose of the teleconference energy conservation intervention is to maintain and promote occupational performance and engagement among people with MS by reducing fatigue severity and fatigue impact and by improving self-efficacy for managing fatigue and overall quality of life.

Method

Candidates for the Intervention

Candidates for the intervention are adults with MS (International Classification of Diseases [ICD-10] code G35). This disease is typically diagnosed in patients between the ages of 20 and 50, and is more common among women and people of Northern European descent.

Epidemiology

This intervention targets adults with MS who experience moderate to severe fatigue, as measured by a Fatigue Severity Scale score of 4 or more (Krupp et al., 1989). The short version of the Blessed Orientation Memory Concentration test (Katzman et al., 1983) is used to identify individuals who have the requisite attention and concentration to participate. Individuals who have difficulty accessing face-to-face education programs are specific targets for the intervention.

Settings

The intervention is advertised through community settings, MS clinics, and MS support groups. Interested individuals volunteer and are screened for eligibility by telephone. Because this is a teleconference intervention, individuals can participate by dialing into the sessions from the location of their choice.

The Role of the Occupational Therapist

The OT functions as an educator, coach, and facilitator by introducing and explaining energy conservation strategies, providing examples of strategy application, promoting discussion and sharing across participants, encouraging and answering questions, and supporting vicarious learning. The OT may also be involved in recruiting and screening participants and organizing program logistics.

Results

Clinical Application

The intervention is a community-based, group educational program guided by psychoeducational group theory (Brown, 2004) and informed by existing self-management interventions for people with chronic illness (Lorig and Holman, 2003). It is a modification of the intervention published by Packer et al. (1995) to accommodate teleconference delivery (Finlayson, 2005). The intervention is a closed group that includes six sessions held once a week for 6 weeks. Ideal group size is five or six participants.

Each session is 1 hour and 10 minutes in length. Participants are provided with a telephone, a headset, and a program binder, and they dial into a toll-free conference call line at a designated time. The major topics of the six sessions are as follows:

- Rest
- Communicating with others about fatigue
- Using good body mechanics and setting up activity stations
- Activity analysis and modification
- Planning and setting priorities
- Goal setting for long-term use of strategies

Across the entire intervention, 14 energy conservation strategies are taught. (Table 23.1) (Finlayson, 2005).

Delivering an occupational therapy intervention through a group teleconference call is challenging, and requires a high level of knowledge of group dynamics and strong group facilitation skills. Participants must be provided with tips for participating in a group teleconference, and therapists must be prepared to deal with technological problems. Preintervention introductory calls from the therapist can mitigate participant anxiety, if it exists. Intervention costs include the teleconference line and associated charges, telephones, and headsets for participants, and copying and distribution of the program binders.

Table 23.1 Energy conservation strategies taught in the course (Finlayson, 2005)

Energy conservation strategies
• Adjust priorities by choosing how to spend available energy
• Change the way the body is positioned during an activity to conserve energy
• Use adaptive equipment, gadgets, or energy-saving devices to conserve energy
• Eliminate part or all of an activity to conserve energy
• Stop to take a rest in the middle of a long activity to manage energy
• Plan days to balance work and rest times to manage energy
• Ask for help from family or friends to manage energy
• Reduce standards for an activity in order to reduce the amount of energy it takes
• Change the location of equipment, furniture, or supplies at home or work to conserve energy
• Change work heights at home or at work to conserve energy
• Simplify activities so they require less energy
• Change the time of day an activity is done to manage energy
• Include rest periods in the day, or rested at least one hour/day in order to manage energy
• Delegate part or all of an activity to another person to conserve energy

How the Intervention Eases Impairments, Activity Limitations, and Participation Restrictions

Participants build knowledge of energy conservation strategies and develop confidence in their abilities to apply these strategies through peer support and vicarious learning. Participants learn, refine, and generalize the application of the strategies across a range of activities through discussion, exploration, practice, and reflection.

Evidence-Based Practice

A pilot test of the intervention was conducted in 2003–2004 with 29 people with MS. On average, they were 47 years of age and had been living with MS for 14 years (Finlayson, 2005). Pilot results demonstrated significant reductions on the Fatigue Severity Scale (Krupp et al., 1989) ($t = 2.34$, df = 28, $p = .03$; effect size = 0.52) and significant reductions on the Fatigue Impact Scale (Fisk et al., 1994) ($t = 2.09$, df = 28, $p = .05$; effect size = 0.44). Participants also reported using several strategies taught during the course, based on findings from the Energy Conservation Strategies Survey (Mallik et al., 2005). Between pre- and post intervention, the greatest percent change in strategy use was found for resting (+93%), planning the day to balance work and rest (+69%), changing work heights (+67%), and using gadgets and adapted devices (+67%). The intervention was well received, perceived as providing useful assistance for fatigue management, and was relevant to participants' everyday lives (Finlayson and Holberg, 2007; Holberg and Finlayson, 2007).

Discussion

Delivering an educational intervention without the benefit of visual feedback to gauge participant understanding is challenging. As tele-health and distance education technologies continue to advance, this challenge will eventually be remediated. The promising pilot findings have led to a randomized control trial that includes a 6-month follow-up. The study is currently underway, with funding from the National Institute of Disability and Rehabilitation Research (grant H133G070006). It will conclude in late 2010. Future research will need to compare participant outcomes and cost-effectiveness between the teleconference delivery model and a more traditional face-to-face model.

References

Brown, N.W. (2004). Psychoeducational groups: Process and practice, 2nd ed. New York: Brunner-Routledge.

Finlayson, M. (2005). Pilot study of an energy conservation education program delivered by telephone conference call to people with multiple sclerosis. NeuroRehabilitation, 20, 1–11.

Finlayson, M., and Holberg, C. (2007). Evaluation of a energy conservation course delivered by teleconference to people with multiple sclerosis. Can J Occup Ther, 74, 337–347.

Fisk, J.D., Ritvo, P.G., Ross, L., Haase, D.A., Marrie, T.J., and Schlech, W.F. (1994). Measuring the functional impact of fatigue: initial validation of the fatigue impact scale. Clin Infect Dis, 18(Suppl 1), S79–S83.

Holberg, C., and Finlayson, M. (2007). Factors influencing utilization of energy conservation strategies by people with multiple sclerosis. Am J Occup Ther, 61, 96–107.

Katzman, R., Brown, T., Fuld, P., Peck, A., Schechter, R., and Schimmel, H. (1983). Validation of a short orientation-memory-concentration test of cognitive impairment. Am J Psychiatry, 140, 734–739.

Krupp, L.B., LaRocca, N.G., Muir-Nash, J., and Steinberg, A.D. (1989). The fatigue severity scale. Application to patients with multiple sclerosis and systemic lupus erythematosus. Arch Neurol, 46, 1121–1123.

Lorig, K.R., and Holman, H. (2003). Self-management education: history, definition, outcomes, and mechanisms. Ann Behav Med, 26, 1–7.

Mallik, P.S., Finlayson, M., Mathiowetz, V., and Fogg, L. (2005). Psychometric evaluation of the Energy Conservation Strategies Survey. Clin Rehabil, 19, 538–543.

Mathiowetz, V., Finlayson, M., Matuska, K., Chen, H.Y., and Luo, P. (2005). A randomized trial of energy conservation for persons with multiple sclerosis. Multiple Sclerosis, 11, 592–601.

Mathiowetz, V.G., Matuska, K.M., Finlayson, M.L., Luo, P., and Chen, H.Y. (2007). One-year follow-up to a randomized controlled trial of an energy conservation course for persons with multiple sclerosis. Int J Rehabil Res, 30, 305–313.

Matuska, K., Mathiowetz, V., and Finlayson, M. (2007). Use and perceived effectiveness of energy conservation strategies for managing multiple sclerosis fatigue. Am J Occup Ther, 61, 62–69.

McLaughlin, J., and Zeeberg, I. (1993). Self-care and multiple sclerosis: a view from two cultures. Soc Sci Med, 37, 315–329.

Multiple Sclerosis Council for Clinical Practice Guidelines. (1998). Fatigue and Multiple Sclerosis: Evidence-Based Management Strategies for Fatigue in Multiple Sclerosis. Washington, DC: Paralyzed Veterans of America.

Packer, T.L., Brink, N., and Sauriol, A. (1995). Managing Fatigue: A Six-Week Course for Energy Conservation. Tucson, AZ: Therapy Skill Builders.