

Research Opportunities in the Area of Adults With Neurodegenerative Diseases

MeSH TERMS

- evidence-based practice
- neurodegenerative diseases
- occupational therapy
- research

The American Occupational Therapy Association (AOTA) Evidence-Based Practice Project has developed a table summarizing the research opportunities on adults with neurodegenerative diseases. The table provides an overview of the current available evidence on interventions within the scope of occupational therapy practice and is based on the systematic reviews from the AOTA Evidence-Based Practice Guidelines Series. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions within the occupational therapy field.

American Occupational Therapy Association. (2015). Research opportunities in the area of adults with neurodegenerative diseases. *American Journal of Occupational Therapy*, 69, 6904400010. <http://dx.doi.org/10.5014/ajot.2015.694002>

Planning a research project requires consideration of many factors. Level of interest and knowledge in a specific area, access to appropriate populations of participants, support of mentors and other researchers, and funding availability all help determine the focus of a future project. An additional component to be considered is whether adequate, up-to-date research has already been completed on a topic; if sufficient evidence is available in a given core area, this area might not be the best choice for another research project.

The best research topic may be one in which either little research has been done or the research to date is insufficient, inconclusive, or mixed. In addition, when research conducted to date provides a low level of evidence and is of limited quality, additional high-quality research in the area is needed.

The “Research Opportunities Table on Adults With Neurodegenerative Diseases” provides an overview of the state of current available evidence on interventions within the scope of occupational therapy practice. The table is based on the systematic reviews from the AOTA Evidence-Based Practice Guidelines Series. The table lists specific interventions and indicates either that the evidence is strong to support the intervention or that moderate, mixed, or few studies support the intervention and therefore it is a priority area for future research. Please refer to *Occupational Therapy Practice Guidelines for Adults With Neurodegenerative Diseases* (Preissner, 2014) and the January/February 2014 issue of the *American Journal of Occupational Therapy* (Foster, 2014a, 2014b) for more information on the topic area and the systematic review process.

This table also is posted online for researchers to use to inform the occupational therapy community about their work. The table is linked to Google Drive and offers a place for researchers to include information on interest in initiating research, describe recently completed and ongoing research, and share clinical data. It is hoped that this information will make the research planning process easier, minimize duplication of research efforts, and stimulate discussions among researchers with similar interests, which can then facilitate the creation of research networks and multisite studies. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions

Research Opportunities Table on Adults With Neurodegenerative Diseases

Category	Interventions	Strength of Evidence	
Multiple Sclerosis			
Activity and participation	Face-to-face fatigue management programs to reduce the impact of fatigue, improve QoL, and improve self-efficacy for using fatigue management strategies	Strong Evidence	
	Teleconference-delivered fatigue management programs to reduce the impact of fatigue on daily life and to improve QoL	Strong Evidence	
	Multidisciplinary rehabilitation provided in a variety of settings to improve levels of activity and participation and health-related QoL	Strong Evidence	
	Outpatient rehabilitation programs for people with MS to improve health and QoL, reduce the impact of fatigue, and improve social functioning	Area for Future Research	
	Inpatient rehabilitation to reduce disease severity and improve ADL status	Area for Future Research	
	A home-based program to improve performance	Area for Future Research	
	Outpatient rehabilitation to improve ADL performance	Area for Future Research	
	Health promotion programs to improve health, increase physical activity and spiritual growth, and reduce stress	Area for Future Research	
	Vocational rehabilitation	Area for Future Research	
	Program to improve functional mobility	Area for Future Research	
Performance skills	Emotion regulation interventions to improve mood, reduce levels of depression, reduce stress, and improve self-efficacy	Strong Evidence	
	Physical activity programs to improve muscle power and mobility	Strong Evidence	
	Aerobic activity programs to improve walking distance, endurance, and QoL	Strong Evidence	
	Home-based, individualized, and computerized cognitive training to improve attention, memory, information processing, and executive functions	Area for Future Research	
	Memory training to improve memory on a short-term basis	Area for Future Research	
	Resistance training to improve speed and endurance	Area for Future Research	
	Motor training to restore neuromusculoskeletal and movement-related functions and motor and praxis skills	Area for Future Research	
Parkinson's Disease			
Engagement in exercise and physical activity to improve performance skills and occupational performance	Multisession, repetitive physical exercise (diachronic) to improve motor and sensory-perceptual performance skills	Strong Evidence	
	Specialized forms of exercise or more intense task-specific exercise (diachronic) to improve performance more than usual forms or less intense exercise	Area for Future Research	
	Single-task interventions in a single session to improve skill development	Area for Future Research	
	Occupational performance	Environmental cues, stimuli, and assistive objects to improve task and occupational performance	Area for Future Research
		Auditory rhythmic external cues, which are more effective than visual, tactile, or other forms of cues, to help regulate walking in PD	Area for Future Research
		Client-preferred external cues during ADLs to improve motor control	Area for Future Research
		Individualized interventions focusing on participant wellness, lifestyle modification, and personal control to improve QoL	Area for Future Research
		Complex and multimodal activity (e.g., tango dancing) to improve functional movement on a short-term basis	Area for Future Research
		Tai Chi to enhance motor and postural performance skills in PD	Area for Future Research
		Multimodal physical activity to improve cognitive performance, particularly executive functioning	Area for Future Research

(Continued)

Research Opportunities Table on Adults With Neurodegenerative Diseases (cont.)

Category	Interventions	Strength of Evidence
	Amyotrophic Lateral Sclerosis	
Engagement in exercise and physical activity to improve performance skills and occupational performance	Home exercise program of daily stretching and resistance exercise improves functional outcome with no adverse effects	Area for Future Research
	A supervised exercise program to maintain functional capacity is better than a home exercise program	Area for Future Research
	Aquatic therapy is helpful to increase energy and reduce assistance for transfers after therapy	Area for Future Research
Service delivery	Participating in a multidisciplinary program improves survival compared with general care	Area for Future Research
	Telemedicine is reported as useful and satisfying to persons with ALS, except for discussions of psychological and emotional concerns	Area for Future Research
Technology and assistive devices	Participating in a multidisciplinary program results in a higher percentage of use of appropriate assistive devices and a higher QoL in social functioning and mental health than general care	Area for Future Research
	PWC users are satisfied with ease of use and comfort, and PWCs can include tilt, recline, head, neck, trunk, and extremity supports; power elevating leg rests; ability to run power features through joystick with upgraded electronics; air or gel cushion; soft headrest; seatbelts; and height-adjustable flat, gel, or contoured armrests	Area for Future Research
	PWCs facilitate participation in activities compared with manual wheelchairs	Area for Future Research
	Manual wheelchairs provide ease of portability compared with PWCs	Area for Future Research
	High degrees of usefulness and satisfaction are reported for elevated toilet seat, rails by toilet, shower seat, shower bars, slip-on shoes, ankle brace, and transfer board	Area for Future Research
	High degrees of satisfaction but infrequent use are reported for sound- or voice-activated environmental controls and communication boards	Area for Future Research
	Low degrees of usefulness and satisfaction are reported for buttonhooks, dressing sticks, and long-handled reaching tools	Area for Future Research
	Using a computer program for writing messages and choosing songs and videos through a virtual keyboard and microswitch are reported as useful	Area for Future Research

Note. ADLs = activities of daily living; ALS = amyotrophic lateral sclerosis; MS = multiple sclerosis; PD = Parkinson's disease; PWC = powered wheelchair; QoL = quality of life.

within the occupational therapy field. To add current or ongoing research to the table, visit <http://www.aota.org/researchopportunitiesables>.

Researchers are also encouraged to enter their projects into AOTA's Researcher Database at <http://myaota.aota.org/research/>. This database provides AOTA with information such as relevant clinical settings and populations, *International Classification of Functioning, Disability and Health* level (World Health Organization, 2001), funder (if any), and key words to help guide research advocacy and policy initiatives. ▲

Acknowledgments

AOTA acknowledges the work of Matthew Bernardo, Stacia Matthews, and Melissa Stutzbach, who participated in the development of the Research Opportunities tables while at the American Occupational Therapy Association in Bethesda, MD. This work is based on the January/February 2014 issue of the *American Journal of Occupa-*

tional Therapy (Foster, 2014a) and the *Occupational Therapy Practice Guidelines for Adults With Neurodegenerative Diseases* (Preissner, 2014), all from the AOTA Evidence-Based Practice Project.

References

- Foster, E. (Ed.). (2014a). Special issue on effectiveness of occupational therapy-related interventions for neurodegenerative diseases [Special issue]. *American Journal of Occupational Therapy*, 68(1).
- Foster, E. (2014b). Themes from the special issue on neurodegenerative diseases: What have we learned, and where can we go from here? *American Journal of Occupational Therapy*, 68, 6–8. <http://dx.doi.org/10.5014/ajot.2014.009910>
- Preissner, K. (2014). *Occupational therapy practice guidelines for adults with neurodegenerative diseases*. Bethesda, MD: AOTA Press.
- World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva: Author.