

Ariana Frontario¹, Elayne Feld¹, Patricia Melville², Kathleen Sherman¹, Lauren Krupp¹, Leigh Charvet¹
 Multiple Sclerosis Comprehensive Care Center, New York University School of Medicine, NY¹
 Department of Neurology, Stony Brook Medicine, Stony Brook, NY²

Objective

To assess the feasibility and benefit of remote delivery of mindfulness based stress reduction (MBSR) training in multiple sclerosis (MS).

Background

Mindfulness meditation focuses on awareness of one's self and consciousness. Mindfulness meditation is a stress reduction technique that has been shown to reduce symptom burden and improve quality of life for those living with MS. However, the requirement to attend weekly group sessions can limit access to patients with a mobility or transportation barrier. We sought to evaluate the feasibility and benefit by remotely-delivering access to mindfulness training to the participant's home through group teleconferencing.

Methods

MS participants were 2:1 randomized to either active training (one hourly phone session per week, n=20) or a control condition of initial instruction only (with no further training, n=10) for six weeks. There was a total of n=30 participants from both conditions. Participants were ages 26 to 67 years of age with a mean age of 49.92 years and 77% were female. Most were diagnosed with the relapsing remitting subtype (n=25; all treated with glatiramer acetate), followed by secondary progressive (n=4), and the primary progressive (n=1) subtype. Expanded Disability Status Scale scores ranged from 1.0 to 6.0 with a median 2.5± 1.77.

Results

Active vs. control participants had significant improvement in cognitive measures of information processing (Symbol Digit Modalities Test, p=0.007 vs 0.482; Paced Auditory Serial Addition Test, p=0.001 vs 0.105). In addition the results report greater reduction in fatigue, depressive symptoms and improved sleep quality before and after the mindfulness based stress reduction(MBSR). Fidelity to daily meditation practice was greatest for those who were initially seeking stress reduction training.

Figure 1: SDMT Improvement

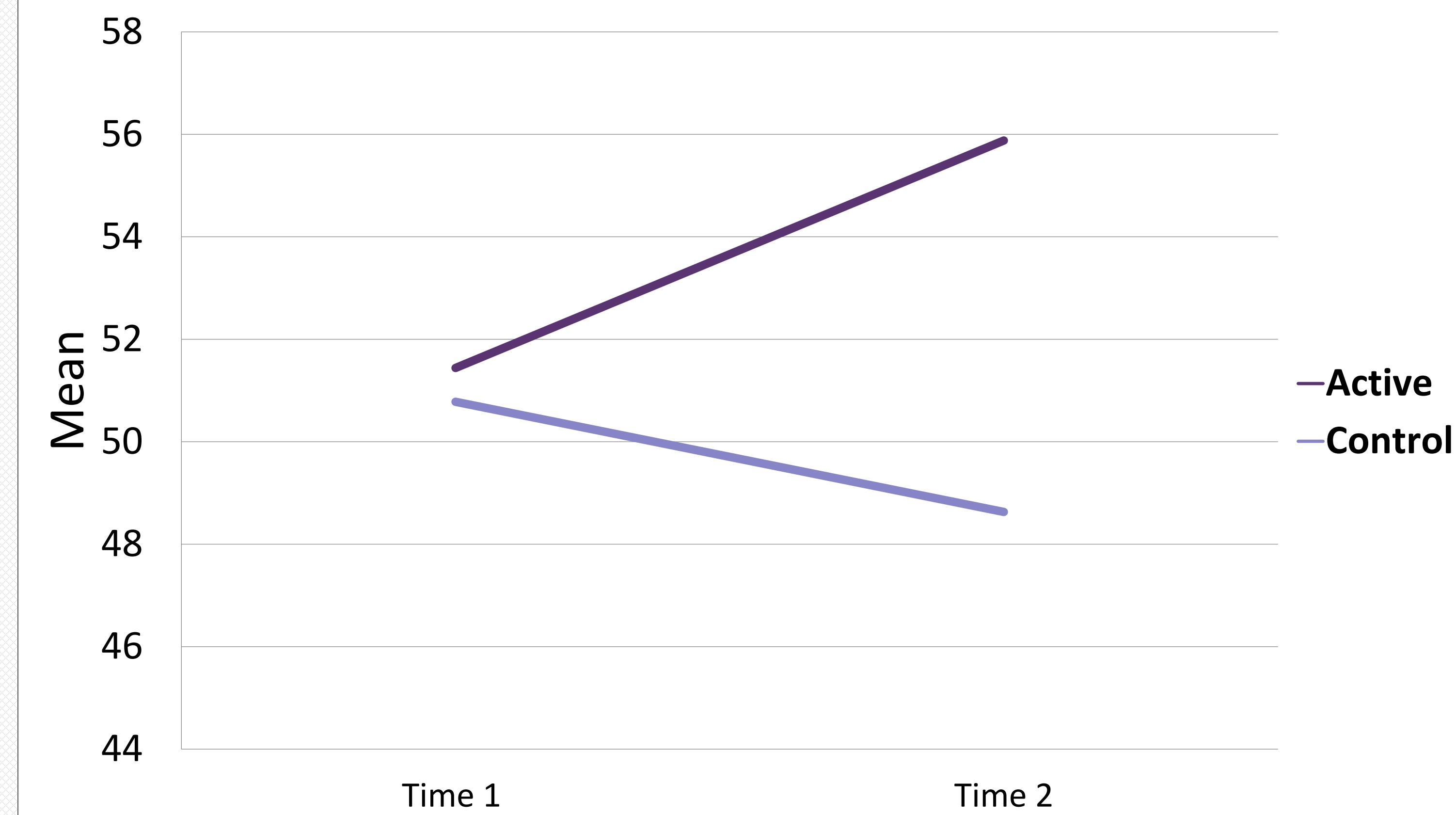
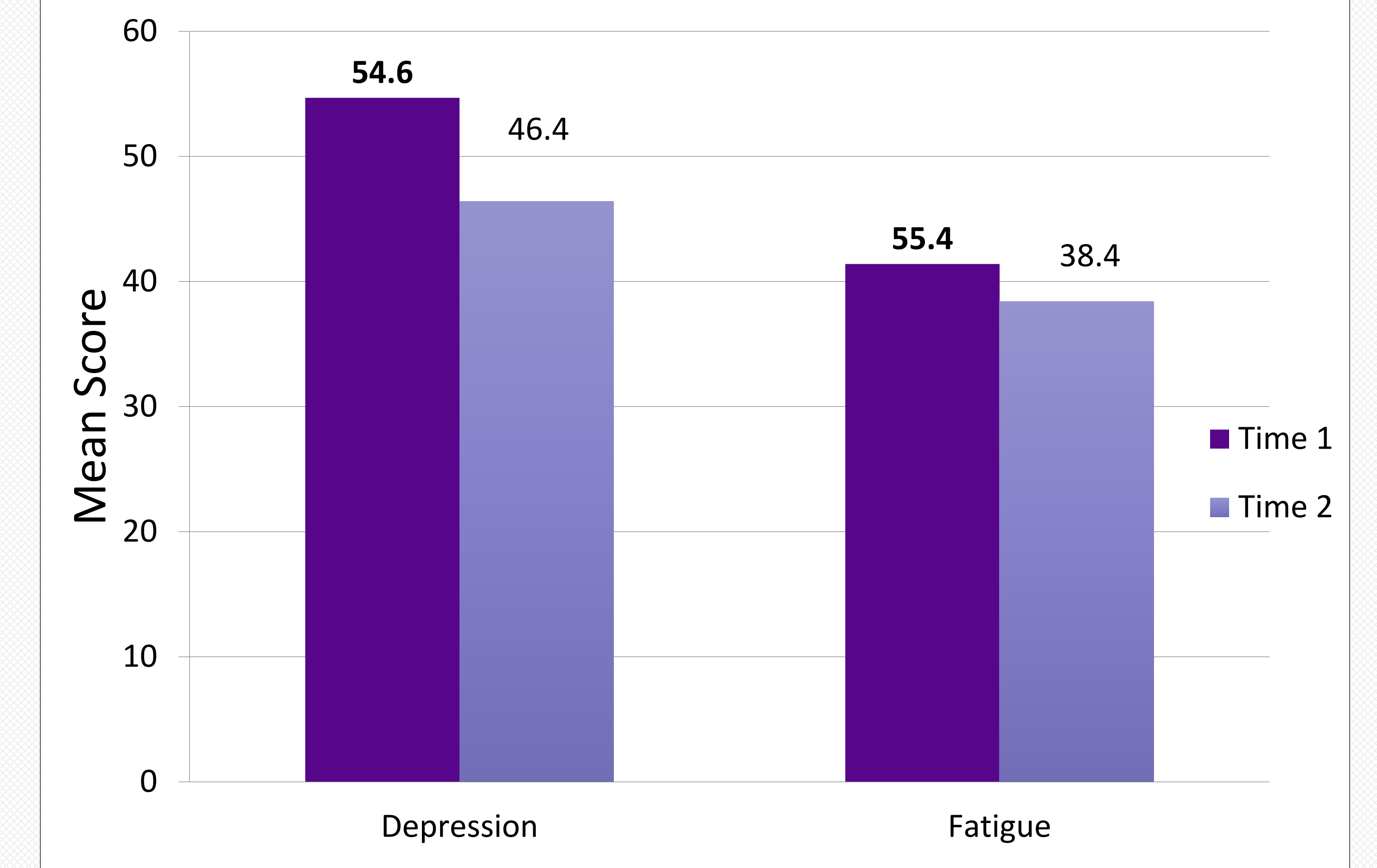


Table 1: Change in Measures of Information Processing

Condition	SDMT Total Mean±SD			PASAT 2,3 Second Composite Total Mean±SD		
	Baseline	Study End	p Value	Baseline	Study End	p Value
Active (n=16)	51.88±10.17	55.88±11.59	0.007	37.97±10.63	42.13±11.23	0.001
Control (n=6)	48.57±7.19	50.29±9.14	0.482	33.93±11.63	39.93±13.43	0.105

Figure 2: Measure of Depression and Fatigue before and after MBSR



Conclusion

- Mindfulness meditation has the potential to benefit cognition, depression symptoms and fatigue with those living with MS.
- Providing instruction and practice through a telemedicine platform greatly improves access and lowers the cost of this symptomatic treatment approach.

References

- Carlson LE, Speca M, Patel K, & Goodey E. Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress, and immune parameters in breast and prostate cancer outpatients. *Psychosom Med* 2003 65(4): 571-81.
- Klatt MD, Buckworth J, Malarkey WB. Effects of low-dose mindfulness-based stress reduction on working adults. *Health Educ Behav* 2009 39(3): 601-14.
- Mohr DC, Lokosky W, Bertagnoli A, Goodkin DE, Wende J, Dwyer P, et al: Telephone-administered cognitive behavioral therapy for the treatment of depressive symptoms in multiple sclerosis disorder, *J Clin Consult Psychol*, 2000; 68:356-61.