

Self-Efficacy Improvement in Multiple Sclerosis (SIMS): A Pilot Study

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OBJECTIVE

This pilot study aimed to determine whether an outreach program consisting of industry-based nursing outreach augmented with recorded MS-specific guided imagery stress reduction training results in superior self-efficacy and adherence compared to outreach alone.

BACKGROUND & SIGNIFICANCE

- Immunotherapy treatment effectiveness is highly dependent upon treatment adherence.
- Self-Efficacy has been shown to be a strong predictor of adherence.¹
- Nursing outreach programs have been very effective at improving self-efficacy and treatment adherence,² but have not been very effective in improving self-efficacy or treatment adherence in patients with depression, anxiety, or chronic stress.²⁻³
- Depression is highly prevalent in multiple sclerosis,⁴ and reduction of depression is associated with improved treatment adherence.³
- Relaxation training is a behavioral medicine modality that is often effective in reducing symptoms of depression, anxiety, and chronic stress.
- Guided imagery is a form of relaxation training that utilizes auditory stimuli to generate relaxation responses via inducing perceived sensory effects.
- A guided imagery program specific to MS has been developed for persons who are starting subcutaneous or intramuscular immunotherapy treatment.⁵ This program is available via audio recording and can be delivered in a standardized, dose-dependent fashion using MP-3 or iPod devices.

METHODS

Design: Pilot study, prospective, convenience sampling, randomized, 12 months duration, no placebo.

Randomization:

1. Nursing outreach + guided imagery relaxation training (intervention)
2. Nursing outreach alone (control)

Inclusion Criteria:

1. CIS or RRMS
2. Starting interferon beta-1b treatment

Exclusion Criteria:

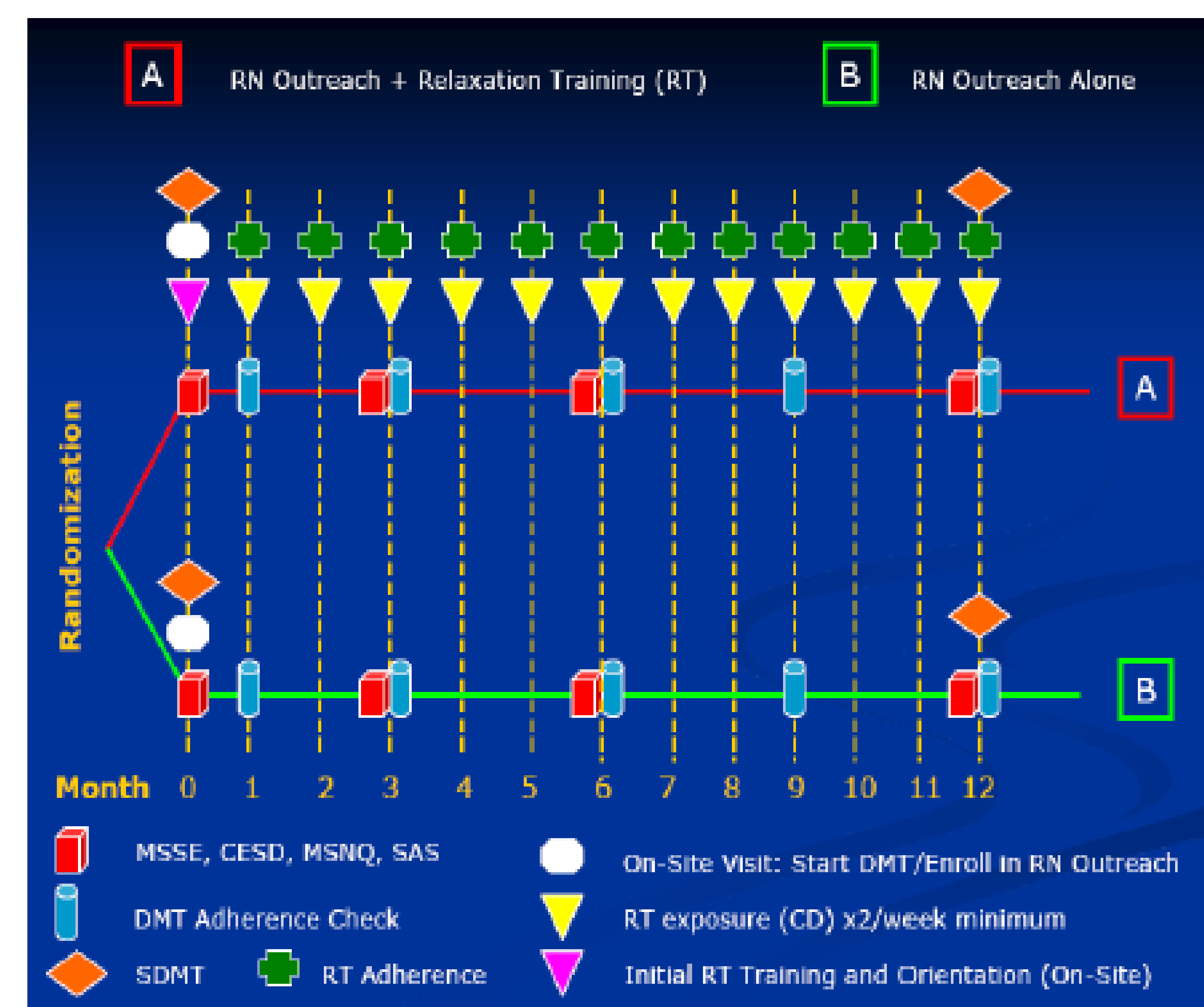
1. Antipsychotic medication use
2. Bipolar affective disorder or psychotic disorders
3. History of suicidal ideation

Current Status: Full enrollment (N=23) completed. The study was completed in April 2012.

PRIMARY HYPOTHESES

The intervention group will demonstrate superior self-efficacy and treatment adherence compared to control.

Figure 1. Study Design Schema

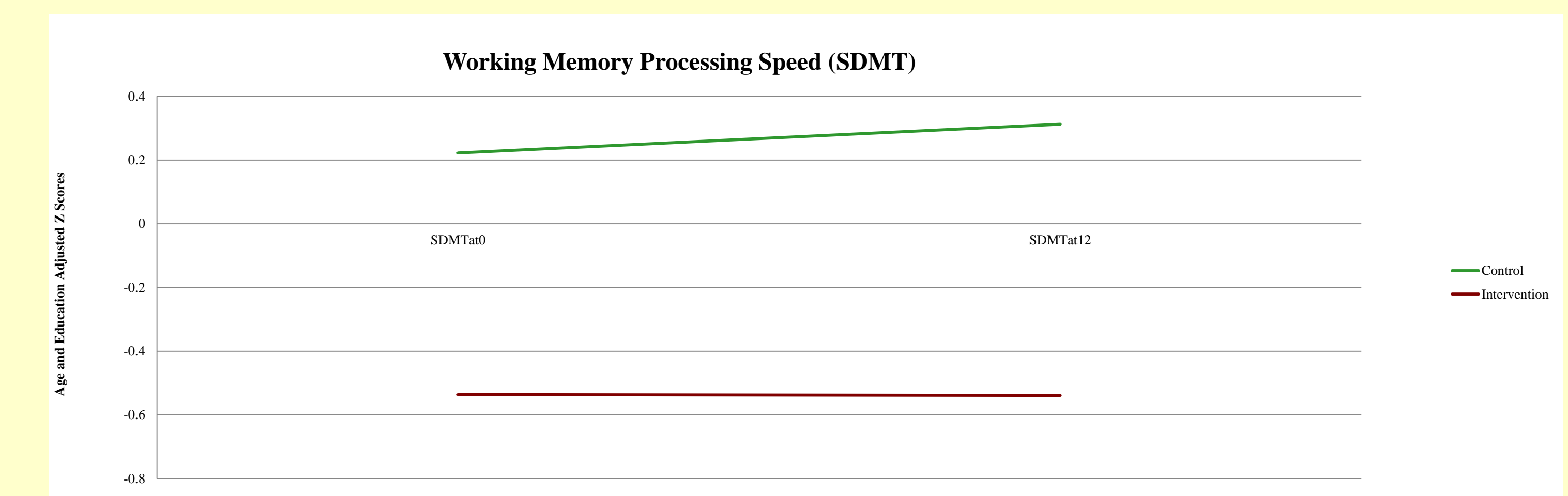


	Intervention (n=14)	Control (n=9)	p
Age at Enrollment	44.3 (n=14)	42.6 (n=9)	0.66
Gender (% Male)	35.7% (n=5)	0	0.04
CIS (%)	7.1% (n=1)	0	0.41
EDSS at Enrollment	2.3 (n=14)	2.1 (n=9)	0.82
2 Yr. Annualized Relapse Rate at Enrollment	0.57	0.55	0.95

REFERENCES

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RESULTS



QUANTITATIVE RESULTS

- 1) Working memory processing speed (age and education adjusted Z scores), differed significantly at baseline and month 12 (-0.54 vs. 0.31, $p < 0.05$).
- 2) No other significant relationships were observed for any measure at any time point.

QUALITATIVE RESULTS

Qualitative results suggested an overall benefit to the intervention. Examples of common themes elicited are given below:

Ease of Use

"It was super easy... the iPod was convenient... I listened to the recordings during breaks at work or to relax before going to bed."

Effectiveness

"I was surprised as how well it worked... after a few weeks I was doing much better with my [DMT] injection anxiety... over time I was using less [PRN] medications for anxiety... I was impressed... would recommend this kind of thing to others with MS."

CONCLUSIONS

- This intervention demonstrated good feasibility but poor effectiveness according to quantitative findings.
- Qualitative findings suggest a general benefit of the intervention.
- Type II error could be present in quantitative measures, especially secondary outcomes.
- Working memory processing and percentage of males in the intervention group could be modifiers of relaxation therapy effectiveness.

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