Introduction

Purpose: The purpose of this exploratory study was to investigate the effects of a 18-week Ananda yoga program on outcomes important to individuals with Multiple Sclerosis: mobility, fatigue, balance, respiratory function and quality of life. Ananda Yoga is a multi-component yoga program of breathing exercises, yoga postures, deep relaxation and meditation.

Methods

Subjects:
- 24 persons with mild to moderate MS
- Recruited via MS society and
- Expanding Light advertising

Methods and Procedures:
Repeated measures study
- Pretest 4 weeks prior to intervention
- Immediate pre-test day 1 of training
- Post-test after a 1-week Ananda Yoga intensive training
- 17-weeks of home-practice (18 weeks total)

Intervention: Ananda yoga is multi-component:
- Yoga poses with affirmations
- Meditation practice
- Deep relaxation
- Energization exercises (developed by Paramahansa Yogananda)

Follow-up:
- Participants were given a DVD as the routine and guided meditation
- An illustrated manual was issued
- Weekly inspirational emails were sent to participants
- Monthly individual phone calls were made

Outcome Measures:
- Physical outcomes measured included: the 30-second sit-to-stand test, a 2-minute walk test, gait velocity, the Berg Balance Scale (BBS), and peak expiratory flow
- The Multiple Sclerosis Quality of Life Indicators (MSQI) tracked eight standardized quality of life measures
- Amount of practice groups were derived from participant's practice logs, and were analyzed for correlations with outcomes

Analysis/Results

Analysis: Data comparing physical measures was accepted for changes before and after 18 weeks of Ananda yoga using SPSS®<sup>®</sup>16.0.1. Data for GQL measures used single way repeated measures ANOVA when sphericity was met using ε=.05

Results: Physical Measures after the Ananda Yoga Intervention are listed in Table 1, with significant results highlighted in green.

Quality of Life Measures from the MSQI in Table 2 show the significance of improvement as well as influence of the amount of yoga practiced over the 18 week period.

Conclusions

Significant improvements were found in the physical measures of functional strength, preferred gait velocity, the Berg Balance Scale and peak flow, along with moderately meaningful clinical improvement. Quality of life measures showed statistically and clinically meaningful improvements in depression, mental health, attention and concentration, perceived cognition as well as reductions in fatigue.

Quality of life improvements seemed to be correlated to the amount of practice that participants did over the 18 weeks. In contrast, however, those who practiced Ananda yoga once or twice a week did not have a correspondingly better amount of improvement in physical health measures as compared to those who practiced 4 times/week – they all improved about the same amount.

We felt that these positive findings were enhanced by two aspects of the Ananda yoga intervention that expert opinion suggests are needed in order for a yoga intervention to be effective: 1) A program must initially offer a longer class or practice that the individuals can continue at home. 2) Yoga needs to be an active, immersive, and transformative experience – a “transformative experience”. An effective yoga intervention must be multi-component – it must offer a few distinct types of yoga practice, Ananda yoga offers physical postures with affirmations, relaxation, a spiritual perspective and breath-based meditation.

The results of this exploratory study suggest that Ananda yoga can have a significant positive impact for persons with mild to moderate Multiple Sclerosis for quality of life and physical functioning. Further studies could investigate if the positive outcomes were due to the synergistic effects of all three components versus a combination of one or more components.