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Yoga for Adults with Intellectual and Developmental Disabilities: A Pilot Study

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Background and Research Purpose

Intellectual and developmental disabilities (IDD) include diagnoses such as autism spectrum disorder (ASD), Down syndrome (DS), and fragile X syndrome (FXS).¹ Generally, individuals with IDD have an increased risk of experiencing poor functional fitness compared to adults without IDD, which can lead to an increased rate of health deterioration and reduced ability to complete activities of daily living.^{2,3}

Functional fitness might be positively impacted by yoga, which is an ancient mind-body practice that synchronously uses controlled breath practices, mindfulness, and physical postures.⁴ Yoga has generally been demonstrated to be effective for improving functional fitness for adults, both with and without disability. Little research, however, has been done regarding yoga for individuals with IDD.⁵⁻⁷

The purpose of this study was to investigate whether a group yoga intervention improves functional fitness in adults with IDD.



Methods and Materials

This single-arm pilot study measured pre and post test functional fitness after a yoga intervention delivered for 60-minutes twice a week for six weeks in a special population recreation center for people with IDD.

Eligible individuals completed a battery of functional fitness physical performance measures. (See Table 2).

A team of yoga teachers and a yoga therapist developed a standardized intervention protocol to promote improving muscular strength and balance. Each yoga session included a standardized progression of postures, breathwork, and guided meditation, and affirmations called “mantras” (e.g. I am strong, I am loved). Multiple modifications were offered for engaging in postures including participating from a chair. Each session ended with a four-minute relaxation pose. (See Table 1 for components of yoga intervention).

Pre- and posttest scores were compared using a Wilcoxon Signed Rank test and were further examined with a percent change calculation (Time 1-Time 2/Time 1 * 100).

Results

Nine participants assented and completed pre and post-testing.

There was a *significant improvement* in three of the six functional fitness measures. (See Table 2 for changes in all outcome measure scores.)

Table 2. Participants’ Pre and Post Functional Fitness Test Scores (FFT)

Functional fitness variable	FFT Item	Pre M (SD)	Post M (SD)	p-value	Percent change
Lower Body Strength	30-sec Chair Stand	8.64 ± 4.03	11.50 ± 3.16	.040	33.10%
Upper Body Strength	Arm curl	11.55 ± 3.27	14.25 ± 3.37	.018	23.91%
Lower Body Flexibility	Chair Sit-and-Reach	-1.18 ± 5.77	-0.98 ± 7.44	.735	16.95%
Upper Body Flexibility	Back scratch AVG	-7.50 ± 6.48	-7.56 ± 6.73	.943	-0.8%
Endurance	2-min Step	43.00 ± 14.28	53.38 ± 22.18	.092	24.14%
Agility and Dynamic Balance	Up and Go	9.70 ± 3.76	6.60 ± 1.54	.036	-31.96%

Table 1. Components of Yoga Intervention

Guided Meditation
Strength Poses
Breathwork
Mantras
Balance Poses
Relaxation Pose

Discussion

This intervention study indicates positive outcomes to promote functional fitness among individuals with IDD. The preliminary significant results indicate that a yoga intervention may have the potential to enhance functional fitness in people with IDD.

While functional fitness often declines rapidly in this population, there may be ample opportunities to promote physical activity through community special recreation programs.

Recreational Therapists, who work with people with IDD, might consider yoga as way to motivate participants to engage in physical activity and to improve functional fitness.



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