2498 Board #245 May 29, 9:30 AM - 11:00 AM

Measures Of Physical Function In Patients With Persistent Mental Illness After High-velocity Circuit Resistance-training

Melanie Potiaumpai1, Matthew A. Romero1, Joseph F. Signorile1, Philip D. Harvey1, Carolina M. Gonzalez1, Martin Straussnig2. 1University of Miami, Coral Gables, FL. 2University of Miami, Miami, FL. (Sponsor: Arlette Perry, FACSM)

Email: m.potiaumpai@umiami.edu

(No relationships reported)

Schizophrenia-spectrum and bipolar disorders are among the world’s most disabling illnesses. Daily functions, as defined by activities of daily living (ADL) and instrumental activities of daily living (IADL), are severely impaired due to psychotic and depressive symptoms, cognitive deficits, motivational problems, and physical limitations, compounded by higher rates of obesity and related comorbidities. People with these persistent mental illnesses (PMI) also age at an increased rate compared to healthy individuals further undermining ADL and IADL performances. Given these limitations, people with PMI prematurely present with health and functional status similar to those of older adults.

PURPOSE: This study evaluated the effect of an 8-week high-velocity circuit resistance-training (HVCT) program on physical function in community-dwelling patients with PMI and the appropriateness of the PFP-10 and SPPB to measure their physical functioning.

METHODS: Twelve subjects (44.0±12 years; schizophrenia, n=9; bipolar disorder, n=3) performed activities of daily living tests before and after the HVCT intervention. The Physical Function Performance Test (PFP-10) and Short Physical Performance Battery (SPPB) were used to evaluate physical functioning.

RESULTS: No significant differences were detected for any component of the SPPB or PFP-10 overall score (p=1.000). Also, no significant differences were detected for any of the ADL tests used with the exception of dryer loading (pretex=17.7±1.4s; post-test=15.0±1.3s; p=0.02, r2=0.382).

CONCLUSIONS: No significant changes in the PFP-10 or SPPB were detected even though significant improvements in upper and lower body power were seen as a result of the training. The PFP-10 and SPPB were specifically chosen because of the accelerated aging process reported in people with PMI. However, our independently-living community-dwelling participants produced pre-intervention scores that left little room for improvement. This “ceiling effect”, indicates that the tests of physical function in these independently-living patients should have a greater difficulty level even though they were diagnosed with PMI.

2499 Board #246 May 29, 9:30 AM - 11:00 AM

Preliminary Performance Outcomes among Minority Parents Participating in a Fitness Program: Athletes for Life Study

Adrian Chavez1, Sonia Vega-López1, Ryan Eckert1, Tony Tarango1, Frank Ray2, Gabriel Shaibi1, Jennifer Huberty1, Michael Todd1, Noe Crespo1. 1Arizona State University, Phoenix, AZ. 2Phoenix Parks and Recreation, Phoenix, AZ.

Email: achavez17@asu.edu

(No relationships reported)

PURPOSE: Athletes for Life (AFL) is a community-based and family-oriented physical activity (PA) and nutrition intervention delivered in a community center located in South Phoenix. This program is designed to improve fitness and dietary habits among dyads of elementary aged children and their parents. The purpose of this study was to assess preliminary (mid-point) performance outcomes among parents.

METHODS: AFL is 12-weeks with 90 min sessions, two times per week, comprised of PA and healthy lifestyle promotion. The PA sessions (45 minutes) include short running, resistance & circuit training, sports, and Zumba with the purpose of improving fitness and habitual PA. The healthy lifestyle promotion (45 minutes) primarily focuses on nutrition (~80%). Lessons include education about the benefits of healthy eating and physical activity for chronic disease prevention and the application of behavior change strategies such as goal setting and monitoring and creating a positive social environment for social support to improve lifestyle habits. The present analyses are preliminary 6-week (mid-point) results of a timed one mile run. It must be noted that PA sessions did not include continuous running (~25 miles) and parents had not completed a mile in the program since pre data collection. A paired t-test determined changes in one-mile run time from baseline to 6 weeks.

RESULTS: Of the 17 parents who began the program, 15 (88%) of the parents (Age=38.7±7.5 years; BMI=31.6±6.1 kg/m²) completed a one-mile run at baseline and 6-weeks. Fourteen (93%) parents were female, 13 (87%) were Latino, 14 were foreign born, 8 (62%) were overweight or obese, and 5 (36%) reported they had elevated cholesterol. At the time of data collection parents had attended an average of 10.2±6 exercise sessions, and 13 participants attended at least 9 of the 12 sessions. There was a significant (p<0.01) improvement in one-mile run time from 12:21 (min:sec) at baseline to 11:01 at 6 weeks. Of the 15 parents, 14 (93%) improved their mile run time from baseline to 6 weeks.

CONCLUSION: Preliminary findings of the AFL program show that this diverse group of parents significantly improved their one-mile run times suggesting promise for improved cardiovascular fitness, an important predictor of CVD risk.

2500 Board #247 May 29, 9:30 AM - 11:00 AM

Attention Deficit Hyperactivity Disorder and Table Tennis Program: Effects on Motor and Executive Functions

Ming-Chih Sung1, Chien-Yu Pan1, Chia-Liang Tsai2, Chia-Hua Chu1, Yun-Wen Cheng1. 1National Kaohsiung Normal University, Kaohsiung, Taiwan. 2National Cheng Kung University, Tainan, Taiwan.

Email: boyachih@hotmail.com

(No relationships reported)

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder identified through developmentally inappropriate symptoms of inattention, impulsiveness, and overactivity. Despite the common conceptualization of ADHD as a disorder of executive functions, children with ADHD also differ from controls on a broad range of non-executive functions such as motor coordination. Because of the likelihood that motor skill performance may play a critical role that benefits the cognitive function of children with and without a disability, understanding the potential role of physical exercise in improvements to both the motor skills and executive function abilities of children with ADHD is crucial.

PURPOSE: To examine the effects of a 12-week (twice per week, 70 min per session) table tennis training program on the motor skills and executive functions of children with ADHD.

METHODS: Forty-five boys (ADHD training, n = 15; ADHD control, n = 15; Non-ADHD control, n = 15) volunteered to participate. The Test of Gross Motor Development (TGMD), Movement Assessment Battery for Children (MABC), and Stroop Color and Word Test were administered before and after the intervention. Two-factor mixed-model ANOVAAs were used to assess group and time-period differences on dependent variables.

RESULTS: Main findings indicated that after the intervention, (1) both the ADHD training (+3.33) and Non-ADHD control (+3.80) groups exhibited significant improvements on the locomotor skills (F=9.13, p<0.01) compared with the ADHD control group, (2) both the ADHD training (+4.67) and Non-ADHD control (+3.40) groups performed significantly better in the object control skills (F=29.95, p<0.01) than the ADHD control group, (3) both the ADHD training (+8.20) and Non-ADHD control (+6.07) scored significantly higher on the Stroop Color-Word condition than the ADHD control group (F=9.81, p<0.01), and (4) improvements in locomotor skills (+5.13), object control skills (+5.20), and Stroop Color-Word condition (+8.73) of the ADHD training group over time were also observed.

CONCLUSION: The findings are sufficiently positive to encourage additional studies with the objective of determining their clinical meaning and underlying neuropharmacological mechanisms.

Supported by Taiwan MOST grant 103-2410-H-017-026-MY3.