Research Poster 412

Merging Yoga and Occupational Therapy (MY-OT), A Pilot Study to Improve Balance and Fall Risk Factor Management

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Research Objectives: Assess change in balance, balance-confidence, and fall risk factor management after the Merging Yoga and Occupational Therapy (MY-OT) intervention.

Design: Concomitant analyses of a non-controlled before-after pilot study.

Setting: University lab.

Participants: Convenience sample of 13 people with chronic stroke (>6 months) completed the study. Inclusion criteria: >59 years old; falls history or current fear of falling; completion of stroke rehabilitation; able to stand; impaired balance (4 out of 6 on the short Mini Mental Status Exam).

Interventions: One hour each of group yoga and group OT delivered twice a week for 8 weeks (32 total hours). Yoga included modified physical poses, breath work, and meditation. OT addressed behaviors and attitudes, activities, stroke effects, and environment.

Main Outcome Measure(s): Outcome measures were completed before and after the intervention and included the: Berg Balance Scale (BBS) for balance; the Activities Balance Confidence scale (ABC) for balance-confidence; and 5 fall risk factor management assessments (Falls Control Scale, Falls Management Scale, Fall Prevention and Management Questionnaire, Fall Management Behavior Questionnaire (FMBQ), and the Fall Prevention Strategy Survey (FPSS)). Wilcoxon signed-rank tests were used to compare data from before and after the 8-week intervention.

Results: Average age was 73 years, 7 participants were female, and 98% >1 year post-stroke. Significant improvements occurred in: BBS (32.77 vs 42.66, p<.001); ABC (53.34 vs 62.06, p=.036); FMBQ (32 vs 41.38, p=.001); and FPSS (12.08 vs 17.15, p=.008). The other fall management scores improved, but not significantly.

Conclusions: Preliminary results indicate that MY-OT may improve balance and fall risk factor management in people with chronic stroke.

Key Words: Stroke, Occupational Therapy, Yoga

Disclosures: None disclosed.

Research Poster 413

Cognition and Mood in a Clinically Fatigued Sample of Individuals with Traumatic Brain Injury

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Research Objectives: To examine relationships between traumatic brain injury (TBI) severity, sleep disturbance, anxiety, depression, and injury in individuals with varying levels of clinically significant fatigue. Fatigue is a common problem after TBI, affecting up to 80% of individuals, and is associated with depression, poor sleep quality, and neurobehavioral dysfunction. This study sought to expand upon recent research that found discordant associations between fatigue and injury characteristics by examining a sample with well-characterized clinical fatigue.

Design: Participants completed self-report measures of anxiety, depression, fatigue, and sleep disturbance.

Setting: Urban medical center.

Participants: Participants with TBI (N=67; 53.7% mild, 19.4% moderate, 26.9% severe) were recruited for a fatigue intervention study.

Interventions: Secondary analysis of pre-randomization data.

Main Outcome Measure(s): Clinically significant fatigue was determined by a score of 22 or higher on the Multidimensional Assessment of Fatigue (MAF). TBI severity was defined using the ACRM guidelines. Neuro-QOL measures were used to determine levels of anxiety, depression, and fatigue. Sleep disturbance was measured using the PROMIS Bank v1.0 - Sleep Disturbance measure.

Results: Significant differences were seen across TBI severity levels in both fatigue and sleep disturbance, but were not significant in either anxiety or depression levels. Individuals with mild TBI reported significantly more fatigue and sleep disturbance compared to those with severe TBI (p<.01).

Conclusions: In this sample of individuals seeking treatment for fatigue, there were no significant group differences for depression and anxiety observed. Understanding clinical correlates of functionally-impairing fatigue can inform the development of interventions.

Key Words: Brain Injuries, Traumatic, Fatigue, Sleep, Anxiety, Depression

Disclosures: None disclosed.

Research Poster 414

Do Therapists Use Object Affordances to Develop Functional Activities for Task-Oriented Therapy: Implications for Robot-Assisted Task-Oriented Therapy

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Research Objectives: To understand: 1) the process that rehabilitation practitioners use when choosing objects for activities and 2) how the choice of objects is influenced by object affordances, which are attributes of an object for potential actions. Choices made by therapists will be compared to an automated Robot-Assisted Task-Oriented Therapy environment that uses machine learning to predict activities based on object affordances.

Design: Single group exploratory design.

Setting: Web-based survey.

Participants: 63 occupational therapy students from an urban university: 32 1st year and 31 2nd year students, 7 males and 56 females.

Interventions: Participants were shown 60 images of 1-4 objects and had to choose tasks that were possible for therapeutic interventions with only the objects in the image. Combinations of objects and order of presentation was random.

Main Outcome Measure(s): Percentage of times an activity was chosen and differences in choices based on year of study.

Results: Data analyses evaluated the influence of each object on activity choice and if the affordance of the object for the activity was high, moderate, or low. When an object has a high affordance, such as the apple for eating, regardless of other objects in the image the participant always chose eating. 13 objects were found to have high affordance, medium, and low affordance for specific activities.

No differences were found between choices of 1st and 2nd year students.

Conclusions: Object affordances influence choice of activities in therapeutical scenarios. Therapists often use combinations of objects to complete an activity and this was validated by the study. This information can be mapped to a robot to allow realistic choices of objects and activities in a robot-patient scenario.

Key Words: Robotics, Occupational Therapy, Task performance and analysis

Disclosures: None disclosed.

Research Poster 415

“Things are Different Around Here”: Activity Participation and Role Changes for Survivors and Caregivers Post-Stroke

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Research Objectives: To explore changes in participation and roles after stroke in couples, and to identify any potential clinical implications.