

HYPOTHESIS

The chair yoga group, in comparison to the other two groups, will demonstrate greater improvement in balance, greater levels of physical strength in the upper and lower extremities, and increased mobility.

Participants in the chair yoga group will report lower levels of anxiety and depression associated with dementia, as well as improvement in sleep quality and improvement in quality of life.

OBJECTIVES

(1) Evaluate the feasibility of having older adults with dementia participate safely in and complete a chair yoga, chair-based exercise, or participatory music intervention.

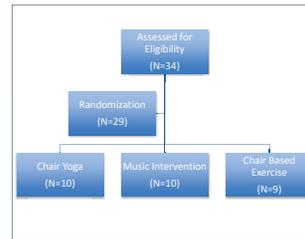
(2) Assess comparative effects of the three interventions by measuring the level of behavioral or psychological symptoms quality of life, and sleep patterns prior to, during, and after the interventions have been completed.

BACKGROUND

- It is currently estimated that 47.5 million people are diagnosed with dementia. This is projected to increase to 135.5 million by 2050 (World Health Organization, n.d.).
- No cure for dementia has been developed, pharmacological treatments have been shown to be effective in lessening cognitive symptoms and aid in maintaining or improving functional abilities for a limited time (Alzheimer's Association, 2017).
- It is difficult to manage dementia symptoms with medication alone. Older adults are at an elevated risk for adverse side-effects from medication use, especially when taking multiple medications concurrently (Hanlon et al., 2006).
- Exercise has been shown to be effective in improving functional ability in older adults with dementia; however, not much is known about its effects on behavioral and psychological symptoms in this population (Lee, Park, & Park, 2016).
- There are currently no evidence-based chair yoga programs in randomized control trials and no published studies except a manuscript (McCaffrey et al., 2014) focused on CY for older adults with dementia who cannot do standing exercise.

METHODS

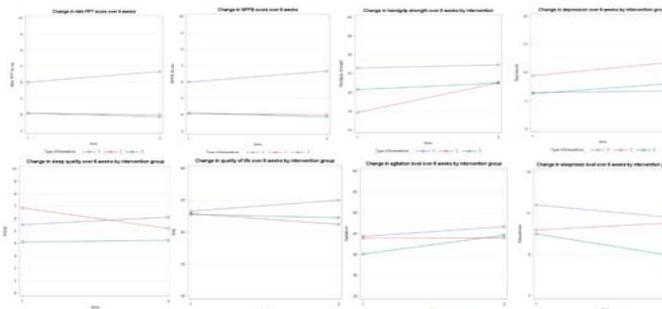
- The study employed a three-arm cluster-randomized, longitudinal design.
- The researchers randomly assigned each site 1:1:1 to chair yoga (CY), chair-based exercise (CBE), or participatory music intervention (PMI).
- All three intervention groups attended twice-weekly 45-minute sessions for 12 weeks.
- Data was collected as baseline, after 6 weeks, and will be collected after 12 weeks.
- To perform all data analyses, an intent-to-treat approach to data analysis will be employed, using SPSS™ v. 24.0 for Windows.
- Preliminary analysis includes descriptive statistics (mean ± SD, range, frequencies) to identify sample characteristics.
- Repeated-measures of analysis of variance (ANOVA) was performed to examine group differences between baseline and 6-weeks (mid-intervention).



Participant Progress through randomization phase

	Baseline		6 Weeks		12 Weeks	
	Mean	SD	Mean	SD	Mean	SD
Depression	10.12	4.51	9.85	4.51	9.85	4.51
Chair Yoga in Mean Depression	10.12	4.51	9.85	4.51	9.85	4.51
Chair Based Exercise in Mean Depression	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51
Time*CY Interaction	10.12	4.51	9.85	4.51	9.85	4.51

Change in physical functionality, quality of life, and dementia-related psychological and behavior symptoms.



Changes over time

CONCLUSION

- Better physical performance at baseline (Mean mini-PPT = 7.70±3.83SD vs. 5.10±4.20SD) and a slight improvement by 6 weeks (Est. for time*CY: 1.04±0.30, p=0.303) were observed in the CY group compared to the PMI group.
- Results were consistent across different measures of physical functionality.
- The CBE group performed similarly to the PMI group on physical functioning.
- A tendency for improvement in psychological symptoms (Est. time*CY term = -2.40±0.65, p=0.015 for depression), quality of life (Est. time*CY term = 2.82±1.97, p=0.167), and day sleepiness (Est. time*CY term = -0.43±1.57, p=0.771) was observed for the CY group. The other two groups experienced declines in these parameters.
- While the small sample limited the power to detect significant between-group differences, there was evidence of a positive effect of the CY intervention on physical functionality, quality of life, and dementia-related psychological and behavior symptoms.

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