

The Impact of Yoga on Quality of Life after Stroke

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Abstract

Objective: Evaluate the effect of an innovative 8 week yoga-based rehabilitation intervention on 1) stroke specific quality of life (QoL) and 2) activity and participation scores in veterans with chronic stroke.

Rationale/Background: Declines in Quality of Life (QoL), activity, and participation are common after stroke. Such declines are related to increased mortality, dependence, and costs. As more people live with long-term effects of stroke, it is necessary to develop innovative and evidence-based rehabilitation and occupational therapy interventions to improve QoL, activity, and participation in people with chronic stroke.

Methods:

- **Participants-** Participants included veterans with chronic stroke (>9 months) who had completed all occupational and physical therapy after stroke, reported some residual disability or functional loss after stroke; and scored ≥ 4 out of 6 on the Short Mini Mental Status Exam.
- **Setting-** All data were collected in the Rehabilitation and Integrative Therapy lab at an urban university.
- **Design-** This was a mixed methods pilot study of an 8 week yoga-based rehabilitation intervention. Data were collected before and after the 8 week yoga intervention. Data collection was completed by a trained research assistant. We used paired t-tests and Wilcoxon non-parametric tests as appropriate to compare group change in scores over the 8-weeks.
- **Measure(s)-** Measures included the Stroke Specific Quality of Life scale (SSQoL) (*high score=better QoL*) to measure QoL and activity and participation were measured with the ICF Measure of Participation and Activity (IMPACT) (*low score=less limitations in activity and participation*). Both are valid and reliable instruments. Qualitative comments were collected during focus groups after the intervention. Supportive qualitative comments regarding improved QoL and activity and participation are included. All qualitative comments were reviewed by two researchers, and exemplar quotes are included.

- **Intervention(s)**- Study participants completed modified yoga twice a week for 8 weeks. Each session was 1 hour long. Yoga exercises and breathing were taught by a certified yoga therapist in a group setting. We included modified yoga exercises in sitting, standing, and lying on the floor and included physical postures, yogic breathing (exaggerated deep breathing), bilateral movements, and concluded with relaxation exercises.

Results: The average age of the 21 participants was 66 (± 9.45), 38% were black, 20 (95%) were male. Time since stroke ranged between 9 months and 11 years, with an average of near four years. After the 8-week intervention, SSQoL scores improved (33.4 vs. 36.6, $p=0.029$). Activity (36.9 vs. 32.6, $p<0.001$) and participation (20.6 vs. 19.3, $p=0.026$) also significantly improved (*low score=less limitations in activity and participation*). Examples of supportive qualitative comments include “this has given me the confidence to take a shower. Now I am not embarrassed to go out and with my family and friends, this has changed my life”, “my washing, sweeping, and cleaning has improved. Now I can mow my yard...I can do more and more everyday”, and “...hiking..A year ago I couldn’t of done it..today I can..”

Conclusions: Our 8-week post-stroke yoga intervention improved QoL, activity, and participation scores in veterans with chronic stroke. Results may be related to both change in physical functioning and group/social intervention. These findings indicate a need for continued development and testing of yoga based programming as an effective treatment approach for individuals with stroke. While further testing is needed for inpatient settings, yoga may be a useful modality for therapists to use in outpatient settings.