Yoga for persons with severe visual impairment: a feasibility study

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Background

This preliminary study aims to establish the feasibility and safety of yoga as a therapeutic intervention for improving sleep disturbance, balance, respiratory rate and negative psychosocial states in legally blind retinal disease patients.

Sleep Disturbances And Vision Loss

Reductions in sleep quality in persons with retinal degenerative disease and advanced vision loss may be related to decreased light processing due to reduced functioning of retinal photoreceptive cells and narrowing of the field of view (Gordon, 2001) affecting overall sleep and sleep architecture.

Psychosocial Factors And Vision Loss

The impact of vision loss on negative mood states (e.g., anxiety, depression, stress) may be an independent factor contributing to disturbed sleep.

Methods

Ten legally blind participants (mean age of 49 ± 14 years) were randomized to receive an 8-week yoga intervention (n=5) or to a waitlist control (n=5) group.

They convened for one session/week with an instructor and performed two home-based practice sessions/week using an audio CD.

Pre- and Post- assessments included the:

- Pittsburgh Sleep Quality Index (PSQI)
- Perceived Stress Scale (PSS)
- Beck Anxiety Inventory (BAI)
- Beck Depression Inventory (BDI)

During the waitlist control’s subsequent participation in the yoga program:

- Timed One-Leg Balance measure
- Respiratory Rate (RR)
- Philadelphia Mobility Scale (PHLMS)

A Wilcoxon Signed Rank Test was performed to determine whether there was a significant change in scores from baseline to post-intervention.

Results

The two groups were not statistically different at baseline across all questionnaire scores (all p > 0.05, Mann-Whitney test).

Results were evaluated for 4 subjects in the yoga intervention group. One subject was excluded from the analyses because he failed to follow the home practice instructions, began to take sleeping pills and missed 2 classes during the 8-week intervention.

The PSQI BDI scores for the first AYP group mostly changed in the direction of reduced negative symptoms (n=3 of 4 changed on average 31.7 mm) or showed no change (n=1 of 4) after the yoga intervention.

Inter-individual PSS-Global scores improved.

All individual PSS-Global scores improved.

A positive trend for improved awareness subscale scores was seen but not for the acceptance subscale (measured in the 2nd yoga group only).

The PHLMS global score sums the two contrasting subscales and negate any significant observations.

Conclusions

This pilot study’s limited sample size was not powered to detect statistically significant effects, yet these are promising preliminary results that warrant further investigation with more subjects and an active control protocol.

The positive responses during the exit surveys and the high participation rates among the majority of the sample help demonstrate the feasibility of the AYP. Participants also reported perceived benefits and improved quality of life.

Exit Survey Results

- All subjects reported completing the yoga program.
- Most participants reported that they thought the AYP helped with stress (5/8) and balance (5/8). Some (3/8) subjects reported that yoga helped with sleep.
- Most participants reported being somewhat (5/8) or mostly honest (3/8) when reporting their daily practice in their practice logs.
- All participants reported liking the yoga instructors, 5/8 “liked” and 2/8 “mostly liked” the setting and environment of the yoga program.
- Most liked the audio CD (7/8) for home practice.

When asked to describe their experiences with the yoga practice at home, half found practicing at home easier as the program progressed (4/8), however, motivation and commitment were identified as factors that prevented regular home practice (3/8).

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