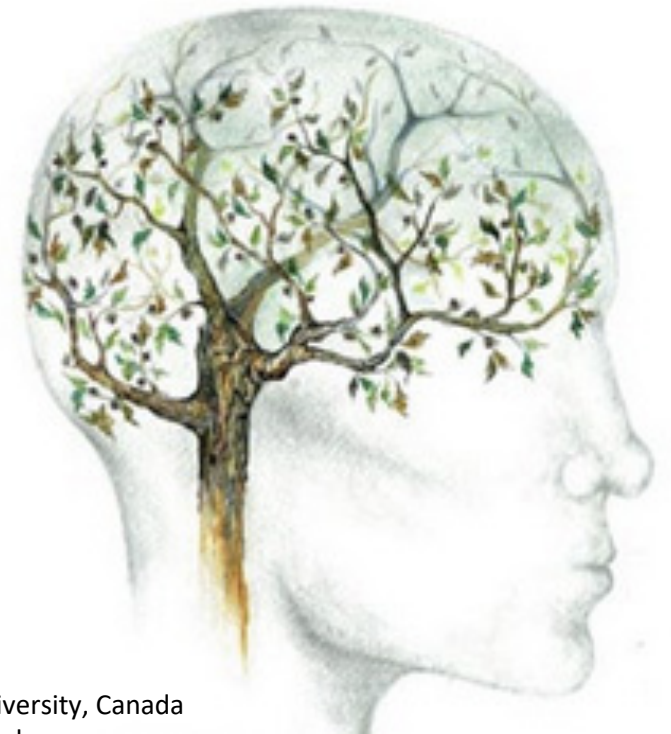


The Feasibility and Impact of a Yoga Intervention on Cognitive and Physical Function Among People Living with HIV: A Pilot Randomized Controlled Trial

Adria Quigley¹, Marie-Josée Brouillette², Jacqueline Gahagan³, Kelly K. O'Brien^{4,5,6},
Marilyn MacKay-Lyons^{1,7,8}

1. Department of Physiotherapy, Dalhousie University, Canada. Contact information: adriaquigley@gmail.com 2. Department of Psychiatry, McGill University, Canada
3. School of Health and Human Performance, Dalhousie University, Canada 4. Department of Physical Therapy, University of Toronto, Canada.
5. Rehabilitation Sciences Institute, University of Toronto 6. Institute of Health Policy, Management and Evaluation, University of Toronto
7. Department of Medicine, Dalhousie University, Canada 8. Nova Scotia Health Authority, Canada



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Introduction

- Yoga has emerged as an effective form of exercise and mindfulness-based stress reduction across many clinical populations.¹
- A meta-analysis of 15 randomized controlled trials (RCTs) concluded that yoga interventions are associated with enhanced cognitive function in the general population.²
- However, no RCTs have examined the impact of yoga on cognitive and physical function among people living with HIV (PLWH).



Methods

- We recruited 22 PLWH with self-reported cognitive concerns over the age of 35.
- Yoga group engaged in 60-minute Hatha classes 3 times per week for 12 weeks.
- Control participants maintained their usual physical activity regime during the study.
- Analyzed data using ANCOVA, mixed ANCOVA, and Wilcoxon Signed Rank tests.

Outcome (primary outcomes ^a , secondary outcomes ^b , tertiary outcomes ^c)	Measurement Tool
Participant recruitment, satisfaction, safety, comfort, fatigue, benefits ^a	<ul style="list-style-type: none">• Records, post-participation questionnaire (yoga group only)
Demographic information	<ul style="list-style-type: none">• Demographic questionnaire
Self-reported cognition ^b and cognitive performance ^b	<ul style="list-style-type: none">• C3Q (Communicating Cognitive Concerns Questionnaire)³• B-CAM (Brief Cognitive Ability Measure)^{4,5,6}
Physical function (balance, walking speed) ^c	<ul style="list-style-type: none">• CB&M (Community Mobility and Balance)⁷• 10-meter walk test⁸
Mental Health ^c	<ul style="list-style-type: none">• Hospital Anxiety and Depression Scale (HADS)⁹
Health-Related Quality of Life ^c	<ul style="list-style-type: none">• Medical Outcomes Survey (MOS-HIV)¹⁰
Medication Adherence ^c	<ul style="list-style-type: none">• Simplified Medication Adherence Questionnaire (SMAQ)¹¹
Physical Activity ^c	<ul style="list-style-type: none">• RAPA (Rapid Assessment of Physical Activity)¹²• Fitbit Flex 2™ [total distance (km) steps per day]¹³

Results

- Mean yoga class attendance was 82% with 100% satisfaction.
- Significant within-group differences on the MOS-HIV cognitive subscale in the yoga group ($p = .047$).
- Within-group trends among yoga participants on the MOS-HIV health transition ($p = .063$) and the HADS-depression ($p = .055$) subscales.
- Baseline CB&M strongly associated with baseline B-CAM ($r = .843$).

Baseline Characteristics (n = 22)	Yoga (n=11)	Control (n=11)
Age (years), (mean, SD)	50.7 (10.2)	60.2 (9.2)
Gender, n (%)		
Male	9 (82%)	6 (55%)
Female	1 (9%)	4 (36%)
Two-spirited	1 (9%)	1 (9%)
CD4+ (cells/mm3) (mean, SD)	552.9 (184.5)	482.2 (273.2)
Taking antiretrovirals, (%)		
Yes	10 (91%)	9 (82%)
No	1 (11%)	2 (18%)



Discussion, Acknowledgements, References

- The yoga intervention was feasible as determined by assessment protocols, adherence, small attrition rates, and participant satisfaction.
- Baseline CB&M values were lower than normative values for healthy adults in all age categories except one (ages 60-69).¹⁴
- The strong association between cognitive performance and balance corroborates the results of other studies conducted with healthy older adults.
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- [Link to references](#)