

The Impact and
Feasibility of a Yoga-
Mindfulness
Intervention on
Cognition and Balance
in People Aging with
HIV: A Pilot
Randomized Study

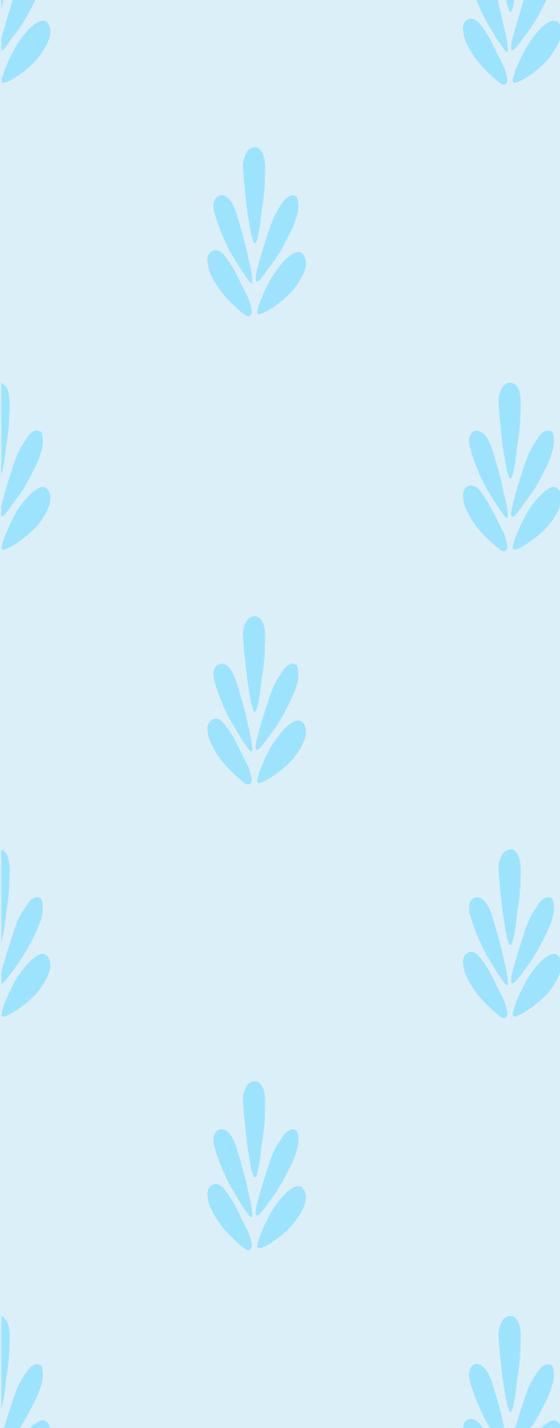
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Background

- People with HIV are experiencing accelerated cognitive and physical aging
- Aerobic, resistance, and balance exercises are recommended for these individuals
- Yoga-mindfulness has emerged as a potential disease-modifying treatment to improve cognition, mobility, and balance, but the effects of such an intervention are not known

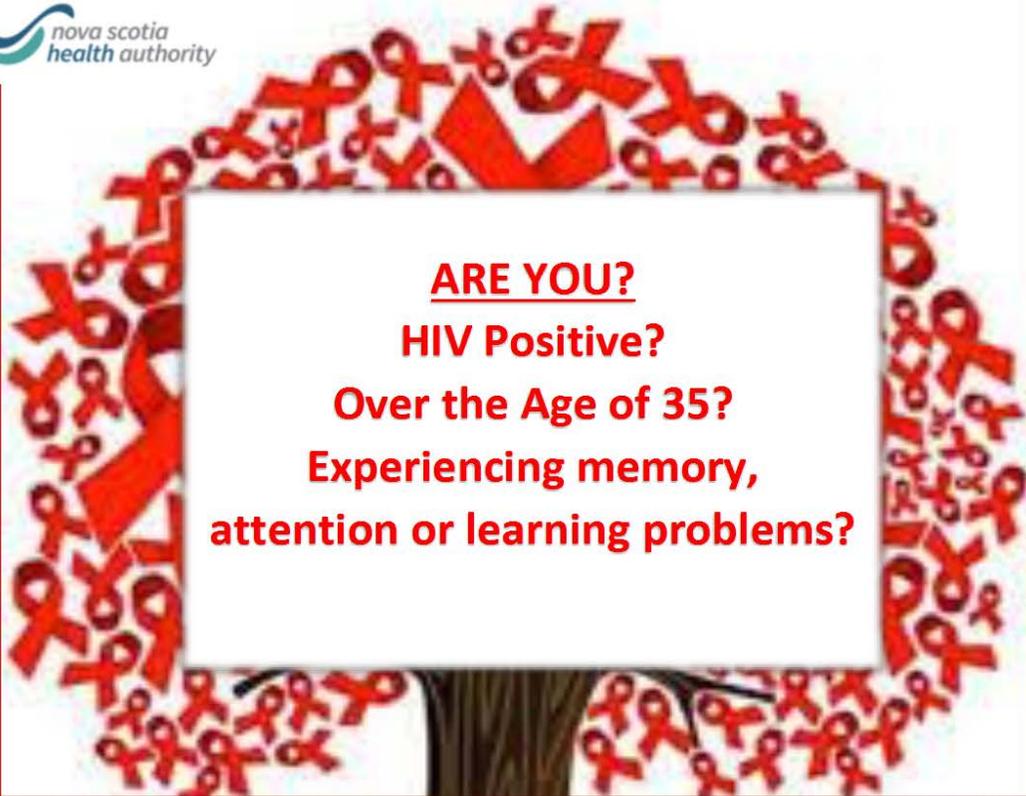


The HIV-AIDS Yoga and Mindfulness Exercise (THYME) Pilot Study

- Purpose: To compare the effect of yoga versus control on cognitive performance in aging PLWH
- Objectives:
 - **1)** Assess feasibility of study protocols and procedures
 - **2)** Compare the effects of yoga versus control on cognition, balance, walking speed, mental health, medication adherence, physical activity, and quality of life

THYME Study Methods

- Randomized pilot study
- Sample size: 20 participants
- Inclusion criteria: aged 35 and older, HIV positive, self-reported cognitive challenges (Communicating Cognitive Challenges Questionnaire or C3Q), living in Halifax
- Exclusion criteria: Participated in yoga in past 6 months, contraindications to exercise (as determined by the Par-Q plus)



**ARE YOU?
HIV Positive?
Over the Age of 35?
Experiencing memory,
attention or learning problems?**

We are looking for participants for a pilot randomized yoga study. If eligible, you would be randomly put into two groups: the yoga group or a control group. The yoga group will take place 3 times per week for 60 minutes for 12 weeks. Both groups will be assessed at baseline and after 12 weeks for cognitive function (memory, attention, learning) balance, quality of life, and walking speed. We are also interested in your experience with the program. Your privacy will be maintained throughout the study. You will be compensated for your participation.

If you answered yes to the above three questions and would like to be involved, please contact Adria Quigley from Dalhousie University at ad877671@dal.ca or 782-234-2121 (local number), or Dr. Marilyn MacKay-Lyons at M.MacKay-Lyons@Dal.Ca or 1-902-494-2632.

SCREENING

- HIV diagnosis
- Cognitive concerns
- Contraindications to exercise
- Residence in Halifax area

OUTCOMES

- Cognition
- Balance
- QoL
- Medication adherence
- Mental Health
- Walking speed
- Physical Activity
- Feasibility

OUTCOME ASSESSMENTS

- Baseline (Week 0)
- Post-intervention (12 weeks)

GROUPS

- 1. Experimental: yoga + meditation + breathing exercises
- 60-minute sessions 3/week for 12 weeks
- 2. Control group Continue with regular exercise routine

POST-INTERVENTION ASSESSMENT

- Repeat outcome measures
- Feasibility outcomes
- Post-participation questionnaire

Methods

- Outcome measures:
 - Cognitive function [Brief Cognitive Ability Measure (B-CAM)]
 - Balance (Community Balance and Mobility Scale)
 - Medication adherence [Simplified Medication Adherence Questionnaire (SMAQ)]
 - Depression and anxiety (Hospital Anxiety and Depression Scale)
 - Quality of life (MOS-HIV)
 - Physical activity [Rapid Assessment of Physical Activity (RAPA)] and activity trackers (Fitbit Flex 2)
 - Feasibility (participant recruitment, comfort, satisfaction, safety, attendance, attrition, time commitment)

Where are we now?

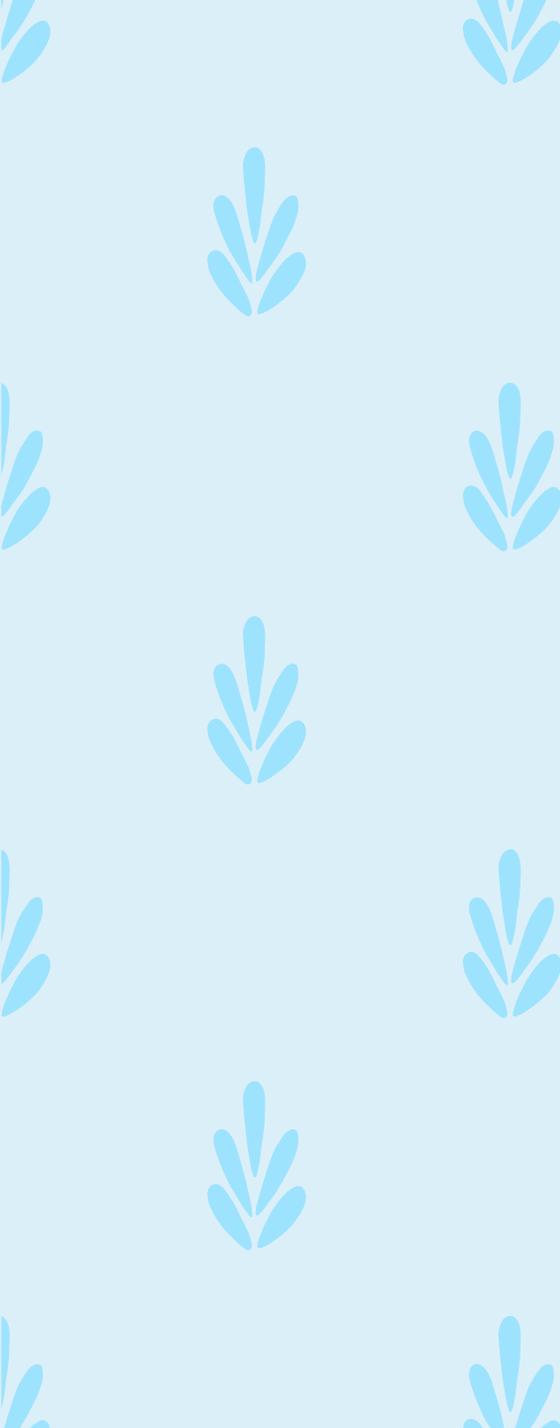
- 15 participants recruited
 - 2 dropped out (from yoga-mindfulness intervention)
 - 11 have completed the study (5 in yoga-mindfulness group and 6 in control group)
 - 2 in progress

Table 1: Participant characteristics (n=15)

Gender(%)	Male: 11 (73%) Female: 3 (20%), Two-spirited: 1 (7%)
Age mean, years\pmSD (range)	56.2 \pm 10.06, (range 37-78 years)
Ethnicity	Caucasian/European: 12 (80%); First Nations: 1 (7%), Multiple Ethnicities: 2 (13%)
Years living with HIV (mean\pmSD)	23.1 \pm 11.9
Taking antiretroviral medication	Yes: 14 (93%) No: 1 (7%)
Viral load	Undetectable (< 50 copies): 14 Unknown: 1
CD4 mean\pmSD	557.75 \pm 216.6
Number of other health conditions other than HIV (mean\pmSD)	1.7 \pm 1.9

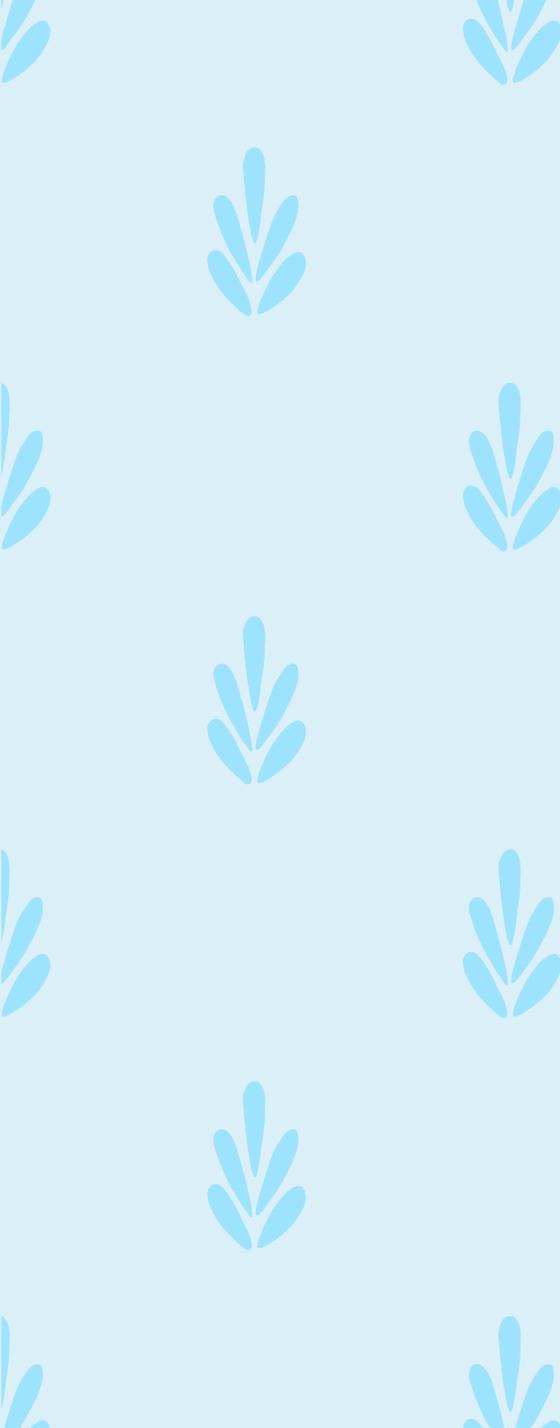
Successes

- Adherence to the program
 - Mean 30.6/36 classes (85% attendance)
- Building trust within the community
 - “[I] enjoyed the group experience with Adria’s instruction!” P006
- Participant satisfaction and safety
 - “My interest in activities, hobbies, [and] getting out has increased greatly” P011
 - “Particularly after classes – [I experience a] heightened sense of ‘well-being’” P006
 - “It was nice to re-connect to a sense of centred-ness, [I’m] definitely less stressed after doing yoga sessions, even the next day” P010



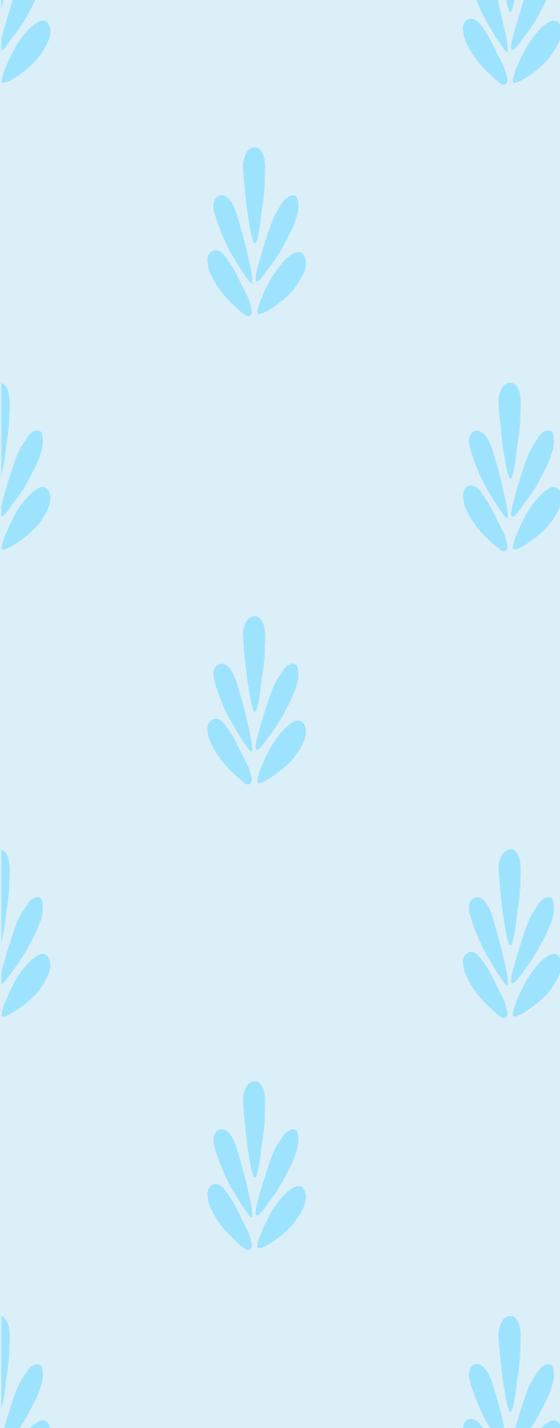
Have you noticed any changes in your thinking ability?

- “My mind is clearer, I enjoy brief meditation during the day” P005
- “Remembering pills, getting up earlier, remembering to pick up stuff at store” P011
- “Not really aware of any” P010



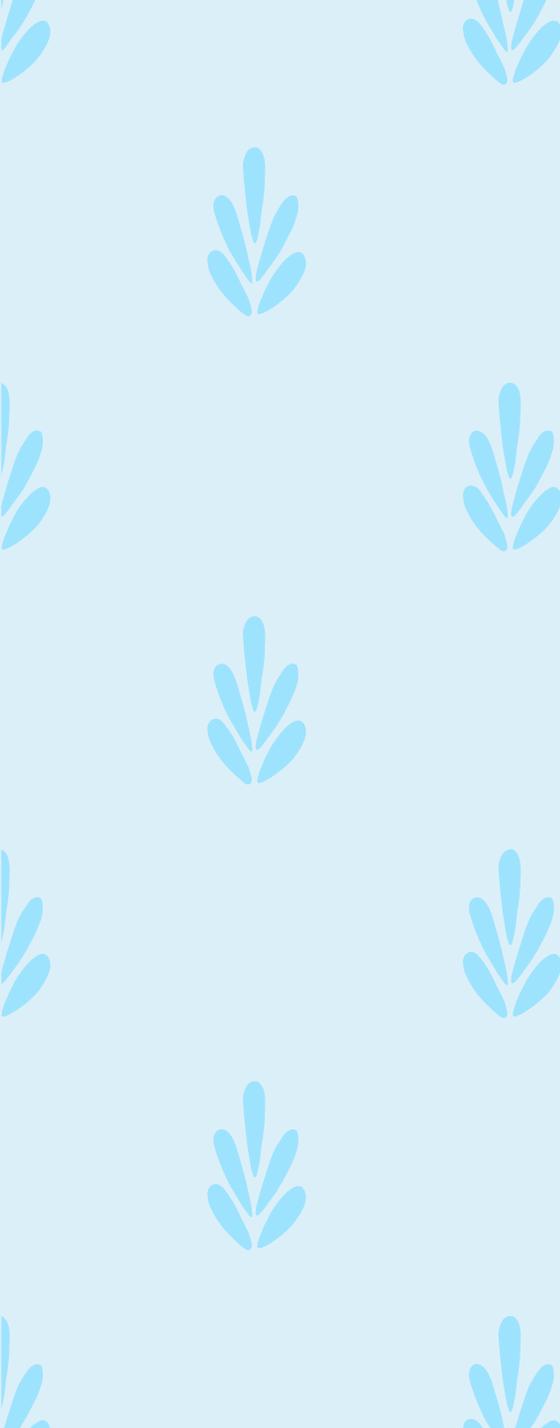
Challenges

- Recruitment
- Yoga class scheduling
- Syncing activity trackers
- Drop out



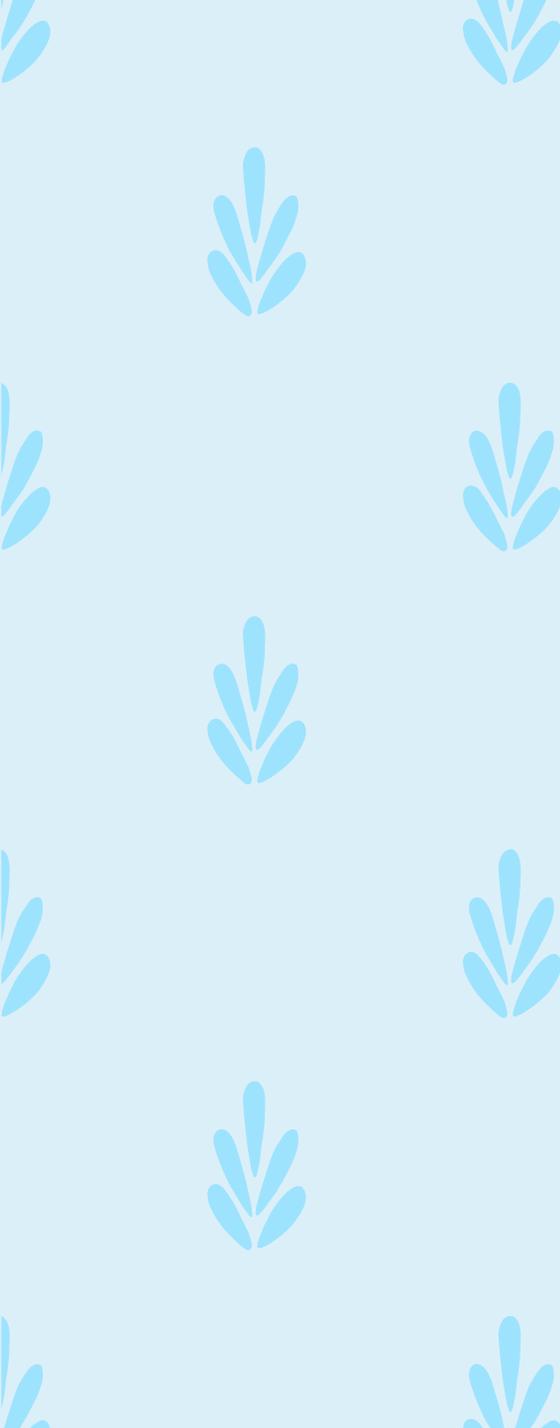
Lessons Learned

- Build relationships with participants from day one
- Be adaptable
- Ask for feedback from participants and evaluators frequently (not just those in the experimental group)
- Implement feedback quickly and re-evaluate



Next Steps

- Recruit 5 more participants
- Collect and analyze the data
- Compile and publish the results
- Look for KT opportunities
- Continue to build relationships with community



Questions, comments,
suggestions?
