# THE IMPACT OF MINDFULNESS MEDITATION PRACTICE ON REDUCING ANXIETY AND IMPROVING LINGUISTIC MEASURES FOR POST-STROKE PATIENTS LIVING WITH APHASIA

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## Background

Approximately 30- 35% of adult patients admitted to hospital with a diagnosis of stroke have symptoms of aphasia at discharge.[1] Individuals living with aphasia describe feeling "**anxious**" when communicating. Research proposes that this may be due to "**linguistic anxiety**".[2] The emotional impact of aphasia is shown to have a marked negative impact on recovery, response to rehabilitation, as well as psychosocial adjustment.[3] While Mindfulness Meditation is being increasingly and effectively incorporated into physical rehabilitation programs[4], its effectiveness for individuals with aphasia has had limited research to date.

## Purpose

To study the potential effect of a brief Guided Mindfulness Meditation Practice for outpatients with expressive aphasia, on linguistic measures for standardized picture description, and conversation tasks.



## Methods

Six Speech-Language Pathology outpatients with expressive aphasia (ages 43- 75, 3 males/ 3 females):

- <u>BDAE</u> picture description
- UCLA Free Guided Breathing Meditation (5 ½ mins)
- <u>BDAE</u> picture description
- Conversation sample
- Analysis of WPM, CIU, CIU/minute, average length of 3 longest phrases
- Subjective observation re: conversation flow, engagement, behaviours, self-report/ feedback
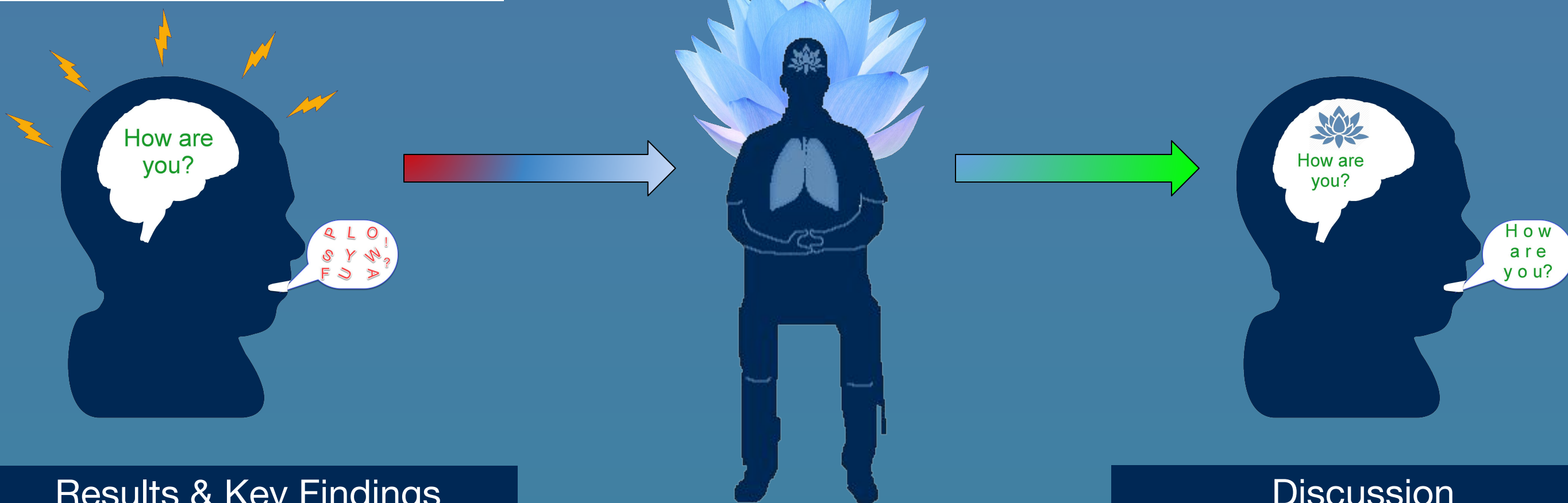


## Results & Key Findings

All six individuals with expressive aphasia showed improvements post Mindfulness in picture description. Positive benefits also occured in post Mindfulness conversation, and in pre-post Mindfulness conversation comparison.

↑ CIU (content information units)

↑ Phrase length (average of longest 3)

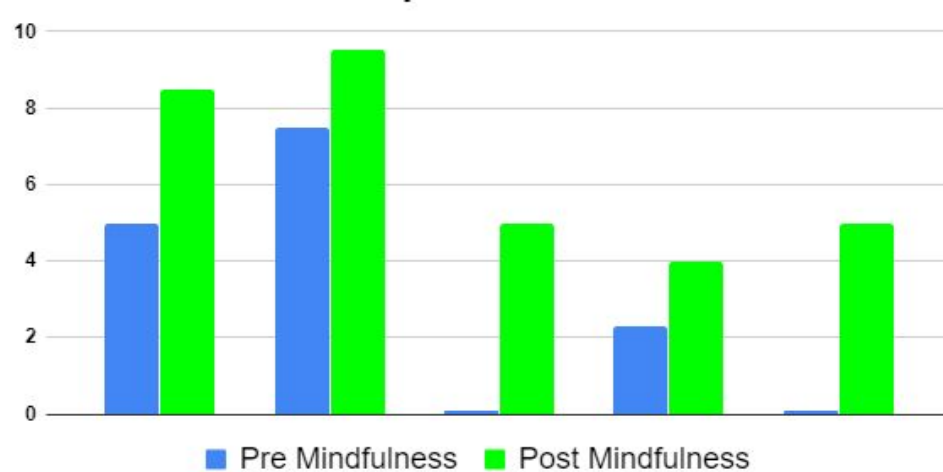↑ Smooth, flowing speech

↑ Engagement

↑ Complexity of sentences

↓ Filled pauses (e.g. "um…" "ah…")

↓ Self-frustration (sighs, shaking head, etc)

Patients consistently reported feeling more relaxed, calm, and that their words flowed better post Mindfulness.



**Content Information Units (CIUs)/ minute: BDAE Picture Description Task**

Legend: ■ Pre Mindfulness  ■ Post Mindfulness

**Average Length of 3 longest Phrases**

Legend: ■ Pre Mindfulness BDAE  ■ Post Mindfulness BDAE  ■ Post Mindfulness Conversation
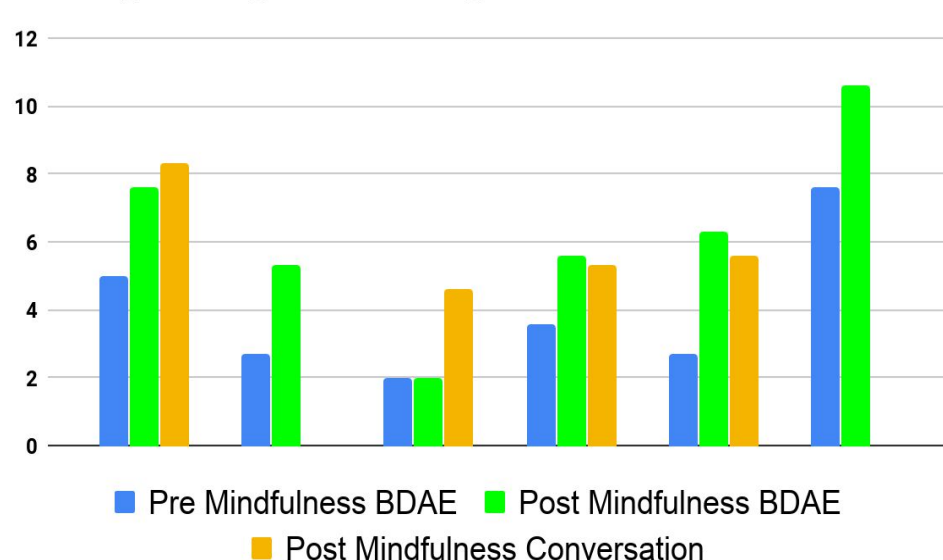
## Discussion

Mindfulness Meditation practice is a feasible approach that can be implemented into traditional SLP therapy for individuals with expressive Aphasia. Improvements were noted in linguistic measures in picture description task and conversation. Participants also demonstrated reduced behaviours of frustration and anxiety post Mindfulness, and verbalized positive experiences. Participants have since incorporated the <u>same</u> brief Guided Mindfulness Breathing Meditation into their everyday routine, frequently doing so alongside their caregivers which is a welcome finding.

While this study showed positive gains, the sample size was limited, and speech samples for each participant were at one time-point.

Future research across a longer time span, as well as inclusion of individuals with receptive aphasia would be beneficial.

"Not bad, calming… a lot of good… more words occurred"

"Helpful… more relaxed… words are easier."

"I always feel better… I can say more"

"Mindfulness… breathing… relaxing… relaxing.. helps me to... the words continue easier."

References: 1. Dickey L, Kagan A, Lindsay MP, Fang J, Rowland A. Incidence and profile of inpatient stroke-induced aphasia in Ontario, Canada. *Arch Phys Med Rehabil*. 2010 Feb; 91(2):196-202. 2. Cahana-Amitay D, Albert ML, Pyun S-B, et al. Language as a Stressor in Aphasia. *Aphasiology*. 2011;25(2):593-614. 3. Code C, Herrmann M. The relevance of emotional and psychosocial factors in aphasia to rehabilitation. *Neuropsychological Rehabilitation*. 2003;13(1/2):109–132. 4. Hardison ME, Roll SC. Mindfulness Interventions in Physical Rehabilitation: A Scoping Review. *The American Journal of Occupational Therapy*. 2016;70(3)