

ORAL ABSTRACT

# RCT OF AN ONLINE MENTAL HEALTH INTERVENTION AMONG OLDER PLWH DURING THE COVID-19 PANDEMIC

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# RCT OF AN ONLINE MENTAL HEALTH INTERVENTION AMONG OLDER PLWH DURING THE COVID-19 PANDEMIC

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# BACKGROUND

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- Older adults (age 50+) living with HIV (OALWH) may experience elevated levels of depression, anxiety and loneliness
- Online mindfulness lessons have the potential to address these problems and enhance access, especially during the COVID-19 pandemic
- The objective of this randomized controlled trial was to determine the effectiveness of online mindfulness lessons in reducing feelings of depression, anxiety and loneliness among OALWH

# Background – The ADHOC Study

- The Aging with Dignity, Health, Optimism and Community (ADHOC) study is a prospective, observational, longitudinal cohort study launched in 2018
- Data collected from 1,047 OALWH prior to COVID-19 showed:
  - Depression prevalent in 21% of the population
  - Anxiety in 21%
  - Loneliness in 51%
- Research suggests that the COVID-19 pandemic might exacerbate these issues<sup>1-4</sup>

1. Czeisler MÉ. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24–30, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69. doi:10.15585/mmwr.mm6932a1

2. Wang C, Pan R, Wan X, et al. A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain Behav Immun.* 2020;87:40-48. doi:10.1016/j.bbi.2020.04.028

3. Spoorthy MS, Pratapa SK, Mahant S. Mental health problems faced by healthcare workers due to the COVID-19 pandemic—A review. *Asian Journal of Psychiatry.* 2020;51:102119. doi:10.1016/j.ajp.2020.102119

4. Simon NM, Saxe GN, Marmar CR. Mental Health Disorders Related to COVID-19–Related Deaths. *JAMA.* 2020;324(15):1493. doi:10.1001/jama.2020.19632



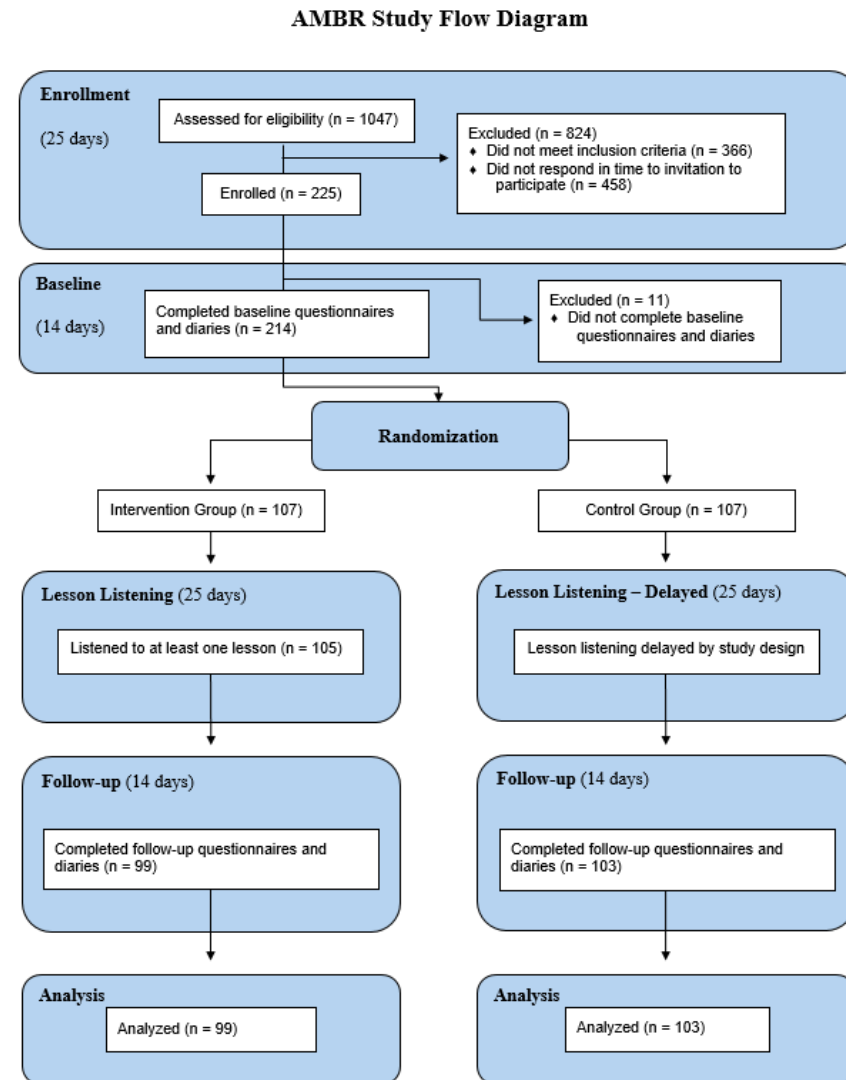
# METHODS

# Methods – The AMBR Study

- This randomized controlled trial, the ADHOC Mindfulness-Based Research (AMBR) study, was conducted between May and August, 2020
- OALWH with any degree of self-reported loneliness were eligible to participate
- Three key outcomes:
  - Depression – measured using the Center for Epidemiologic Studies Depression Scale (CES-D-10)
  - Anxiety – measured using the Generalized Anxiety Disorder (GAD-7)
  - Loneliness – measured two ways: the Three-Item Loneliness Scale (3IL), and a Daily Diary that asked “How lonely did you feel today?”
- Statistical analysis
  - Two sample t-tests were used to compare group scores at follow-up

# Methods – CONSORT Flow Diagram

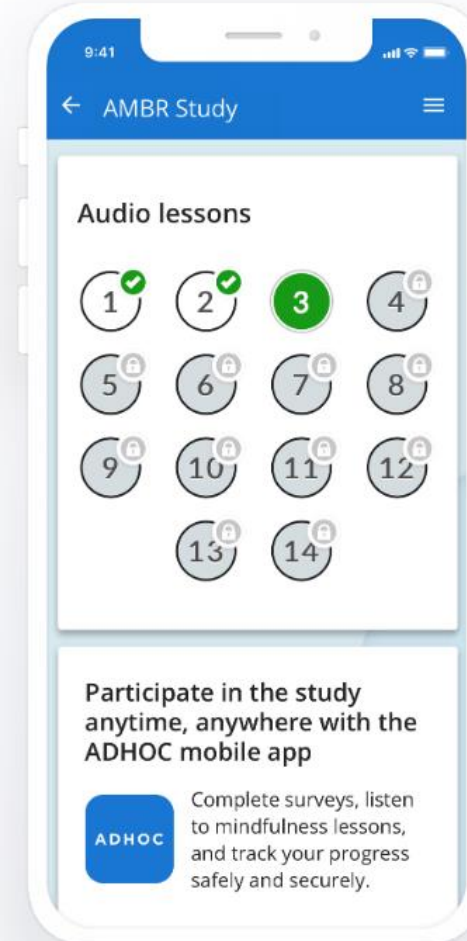
- 225 participants enrolled
- 214 were randomized (107 in each arm)
- 93% (N=99) of the intervention group completed follow-up, as did 96% (N=103) of the control group





# Methods – The Mindfulness Lessons

- Previous research has shown that an audio series of 20-minute online mindfulness lessons can help ameliorate depression, anxiety and loneliness<sup>1,2</sup>
- Participants were allotted 25 days to listen to up to 14 lessons
- Participants could listen at any time they liked, from any internet connected device, including a mobile app.



<sup>1</sup> Lindsay et al. Mindfulness training reduces loneliness and increases social contact in a randomized controlled trial, PNAS, 2019, <https://www.pnas.org/content/116/9/3488>

<sup>2</sup> Lindsay et al. How Mindfulness Training Promotes Positive Emotions: Dismantling Acceptance Skills Training in Two Randomized Controlled Trials, JPSP, 2020, <http://dx.doi.org/10.1037/pspa0000134>

# RESULTS

# Results – Participants and Lesson Listening Behavior

- Participant Demographics:
  - Mean (SD) age = 60.4 (5.9)
  - 89% male
  - 69% White
  - 74% gay
  - No statistically significant differences between groups at baseline
- Lesson Listening Behavior

Lessons Completed	N	%
0-9	9	8%
10-13	7	7%
14	91	85%
Total	107	100%

92% completed at least 10 lessons

# Results – Mean depression, anxiety and loneliness scores following an online mindfulness intervention

	Intervention N	Control N	Intervention Mean (SD)	Control Mean (SD)	p-value	Difference	Cohen's d
<b>Depression<sup>a</sup></b>							
All participants	99	103	10.2 (5.8)	12.8 (6.9)	< 0.01	20.3%	0.41
Depressed at baseline (CESD ≥ 8)	76	68	11.8 (5.6)	16.0 (5.8)	< 0.01	26.3%	0.75
<b>Anxiety<sup>b</sup></b>							
All participants	99	103	5.2 (4.3)	6.7 (5.0)	0.03	22.4%	0.32
Anxious at baseline (GAD ≥ 5)	67	66	6.2 (4.2)	8.6 (4.5)	< 0.01	25.9%	0.55
<b>Loneliness<sup>c</sup></b>							
All participants (3IL)	99	103	6.0 (1.9)	6.3 (1.8)	0.26	4.7%	0.16
Lonely at baseline (3IL ≥ 6)	69	64	6.8 (1.6)	7.3 (1.5)	0.06	6.8%	0.33
All participants (Diary)	99	103	2.7 (1.5)	3.1 (1.6)	0.07	12.9%	0.26
Lonely at baseline (Diary)	69	64	3.0 (1.4)	3.7 (1.5)	< 0.01	18.9%	0.55

<sup>a</sup> Measured using the CES-D-10, which ranges from 0-30 with higher scores indicating more severe depression.

<sup>b</sup> Measured using the GAD-7, which ranges from 1-21, with higher scores indicating more severe anxiety.

<sup>c</sup> Measured using the Three-Item Loneliness scale, which ranges from 3-9, with higher scores indicating more loneliness, and using a Daily Diary, which asked "How lonely did you feel today?" on a 1-7 scale, with higher scores indicating more loneliness, each day for three days. Responses were averaged across the three days.

# Results – Supplementary analyses of key subpopulations

	Intervention N	Control N	Intervention Mean (SD)	Control Mean (SD)	p-value	Difference	Cohen's d
Depression <sup>a</sup>							
Hispanic, Black or female	29	30	9.3 (5.6)	12.7 (7.4)	0.05	26.8%	0.52
Income ≤ \$50k/yr	59	55	11.0 (6.0)	13.5 (7.3)	0.04	18.5%	0.38
Obesity, diabetes, or COPD	42	47	11.2 (5.9)	13.8 (7.0)	0.06	18.8%	0.40
Anxiety <sup>b</sup>							
Hispanic, Black or female	29	30	4.4 (4.8)	6.9 (5.1)	0.06	36.2%	0.49
Income ≤ \$50k/yr	59	55	5.4 (4.7)	7.4 (5.1)	0.03	27.0%	0.42
Obesity, diabetes, or COPD	42	47	5.2 (4.1)	7.4 (4.9)	0.03	29.7%	0.47

<sup>a</sup> Measured using the CES-D-10, which ranges from 0-30 with higher scores indicating more severe depression.

<sup>b</sup> Measured using the GAD-7, which ranges from 1-21, with higher scores indicating more severe anxiety.

# CONCLUSION

# Conclusion

- In this randomized controlled trial that included 214 adults, online mindfulness lessons produced significant reductions in depression, anxiety, and daily loneliness.
- For many patients, this intervention may offer emotional relief even in the face of the COVID-19 pandemic.
- This intervention holds promise as a way to supplement strained existing mental health resources, without the need for face-to-face interaction and with minimal disruption to provider workflow.