

RAGE AGAINST THE PAIN: AN ALTERNATIVE-TO-YOGA PROGRAM TO ADDRESS CHRONIC LOW BACK PAIN AMONG VETERANS (PPO 19-362)

PROJECT TEAM:

PRINCIPAL INVESTIGATOR: BELLA ETINGEN

CO-INVESTIGATORS: TIMOTHY P. HOGAN; BRIDGET M. SMITH; FRANCES M. WEAVER; DAVID R. SMITH; ERIN D. REILLY; SALLY STELSEL; KELLY KRESE; SADIE WALKER-STERN; CHIRAG RAVAL; MARY TERESE WANICEK-SQUEO; SABRINA BEDO; LAKSHMI R. ATHOTA

PROJECT STAFF: FELICIA R. BIXLER; IBUOLA KALE; LISHAN CAO; DAWN IRVIN

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POLL QUESTION #1

- What is your primary role in VA?
 - a. Student, trainee, or fellow
 - b. Clinician
 - c. Researcher
 - d. Administrator, manager or policy-maker
 - e. Other

POLL QUESTION #2

- What is your familiarity with yoga? (Please select all that apply)
 - a. I am a certified yoga instructor
 - b. I use yoga in my clinical practice
 - c. I practice yoga myself
 - d. I have heard of yoga, but am not familiar with specifics
 - e. I have heard of yoga, and am interested to learn more about it
 - f. I have never heard of yoga

POLL QUESTION #3

- Are you a fan of rock/alternative/metal music?
 - a. Yes
 - b. No
 - c. 50/50
 - d. Not sure, but I would give it a listen!

BACKGROUND – WHAT IS WHOLE HEALTH?

- Roots in patient-centered models of care
- Supports patient health and well-being holistically, rather than focusing only on treating diseases
- Tailors care to individuals' goals, preferences, and priorities
- Focuses on patient empowerment – self-care, skill building, and support
- Bottom line: what matters to you, not what is the matter with you



BACKGROUND – WHOLE HEALTH IN VA

- VA is transforming into a ‘Whole Health System of Care’
 - Core Whole Health services
 - Complementary and Integrative Health (CIH) therapies



CALLS TO ACTION – HOT OFF THE PRESS

- Recommendations from the National Academies for healthcare systems, community and social services, and public health organizations to implement Whole Health
- VA noted as the national exemplar of Whole Health care implementation and delivery

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Achieving Whole Health: A New Approach for Veterans and the Nation (2023)

DETAILS

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CONTRIBUTORS

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BACKGROUND

- Low back pain is a leading cause of disability
- Significant problem in VA
- Motivation across the healthcare system to take action to improve Veteran engagement in pain care
 - Including complementary and integrative health (CIH) therapies

BACKGROUND

- Yoga is an evidence-based treatment for low back pain
- Available nationally across VHA as part of the VHA Whole Health System of Care (*VHA Directive 1137*)

BACKGROUND

- Yoga is one of the top 5 CIH approaches utilized by Veterans across the VA, however, its adoption could be further improved
 - Access to yoga and lack of knowledge/understanding that yoga can be adapted to the individual may be barriers to adoption
 - But, some Veterans may also have long-held but inaccurate beliefs of what engaging in yoga entails and how their participation will be viewed by others

OBJECTIVE

To develop and evaluate an alternative-to-yoga program – the Rage Against the Pain (RAP) High Intensity Stretching program - intended to improve Veteran participation in an alternative-to-yoga practice and by extension, outcomes among Veterans with chronic low back pain

PROJECT AIMS

- (1)** Develop the RAP program, which will encompass finalizing the program curriculum, including music play-lists, cues for self-expression, and sets of body positions that may be beneficial for low back pain.
- (2)** Examine the feasibility and acceptability of offering RAP for Veterans with chronic low back pain.
 - HI. Initiation of participation in RAP will be greater than a traditional yoga program, and attrition will be lower.*
- (3)** Gather preliminary data to provide the foundation for process, sample size and power considerations for a future clinical trial to examine the effectiveness of RAP on Veterans' outcomes and medication use.

VETERAN ENGAGEMENT

- Veteran feedback was integral to this study, including input from a Veteran Engagement Panel that informed the proposed intervention
 - Sentiments conveyed that some Veterans may not be interested or comfortable with doing yoga
 - Veterans expressed interest in participating in an alternative-to-yoga program
 - There was a perception that other Veterans might be similarly interested in an alternative-to-yoga program

“I can see the concept of ‘getting lost in the music’ and changing focus helping with pain management.”

“A lot of these guys...if I mention yoga to them, they just give me this dirty look.”

VETERAN ENGAGEMENT

- The 'high intensity stretching' program branding was a Veteran suggestion

“I can’t tell my buddies that I’m going to yoga, but I can tell them that I’m doing a stretching program.”

METHODS

- Single-site pilot RCT
- Randomized to: (1) Hatha yoga (control) or (2) High-intensity stretching (intervention)

Hatha to RAP Pose Translations

Term/Pose	Sanskrit	RAP Translation
Boat Pose	Navasana	V Position
Bridge	Setu Bandha Sarvangasana or Setu Bandhasana	Laying Hip Lift Stretch
Butterfly	Baddha Konasana	Inner Thigh Stretch
Chair pose	Utkatasana	Sit Back Squat
Child's pose	Balasana	Pull Back Stretch

**RAP Playlist
Week 1 Sequence**

*Start music after body scan/breathing exercise, i.e., right before beginning the warm-up

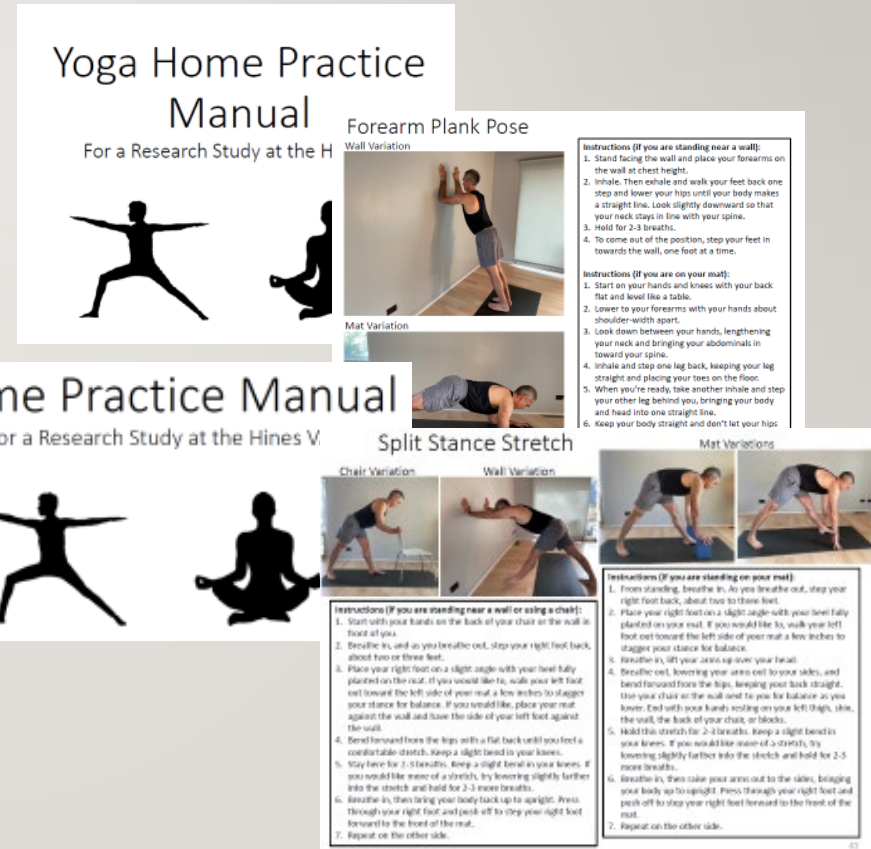
Emma Ruth – Out of Existence (3:43 min)
 Metallica – Fuel (4:30 min)
 Agalloch – Our Fortress is Burning I (5:28) – No Lyrics
 Corey Taylor – From Can to Can't (5:07 min)
 Anna Von Hausswolff – The Marble Eye (5:19 min)
 Linkin Park – Iridescent (4 min)
 Avenged Sevenfold – Hail to the King (5:04)
 Neurosis – The Last You'll Know (9:14)
 Tool – Lateralus (9:24)
 Wolves in the Throne Room – Sleeping Golden Storm (9:02)

**RAP Playlist
Week 7 Sequence**

Ice (4:31)
 (6:03)
 Everlong (4:30)
 - Into the Void (6:11)
 The Rolling Stones – Paint It Black (3:21)
 Machine Head – Be Still and Know (5:43)
 Alice in Chains – Man in the Box (4:32)
 Guns N' Roses – Sweet Child O' Mine (5:55)
 Wolves in the Throne Room Fires Roar in the Palace of the Moon– (11:29)

METHODS

- Developed and provided home practice manuals to encourage home practice
 - Developed by interdisciplinary team including PTs, OTs, MDs, certified yoga instructors
 - Included visual cues and written instructions for poses used in the 12 week sessions
 - Different cueing language for RAP and Hatha manuals



METHODS

- Data collection:
 - Baseline (n=36; 100% participation rate) and post-participation (n=26; 72% participation rate) surveys
 - Class attendance
 - Follow-up semi-structured interviews (n=20) to understand experiences
- Primary outcomes: initiation (attended at least one class) and sustained engagement (attended majority, i.e., 9/12, classes)
- Secondary outcomes: pain intensity; pain interference; function; sleep; depression; stress

RESULTS – RECRUITMENT AND ENROLLMENT

- Enrollment target: 32-40 Veterans
 - Actual enrollment: 36 Veterans
- Leveraged two recruitment strategies:
 - Opt-in (cohort one)
 - Mailed invitation letters to 750 Veterans; were contacted by 44; enrolled 18
 - Opt-in with telephone follow-up (cohort two)
 - Mailed invitation letters to 400 Veterans; conducted follow-up calls with 243
 - Were contacted by 15 who received invitation letter only
 - Of those called, 25 expressed interest
 - Enrolled 18 Veterans

INCLUSION/EXCLUSION CRITERIA

- **Inclusion:**
 - Currently receive VA primary care services
 - Documented diagnosis associated with chronic low back pain in the previous 3 months
- **Exclusion:**
 - Currently participates in yoga
 - Regularly participated in yoga in the previous 6 months
 - Back pain was a symptom of a specific treatable or underlying disease/condition(s) (e.g., ankylosing spondylitis, active or recent malignancy, fracture/spinal cord injury, spinal infection)
 - Were experiencing progressive neurological deficits
 - Had any other condition which results in severe disability (e.g., non-ambulatory, hemiparesis, severe cognitive deficits)
 - Had a diagnosis associated with psychosis
 - Were currently experiencing issues around substance abuse (not including prescription opioids)
 - Were not planning to be living in the area for the duration of the study
 - Were pregnant at the time of screening

PARTICIPANT DEMOGRAPHICS

Sociodemographic Variable*	Overall (100%; n=36)	RAP (50%; n=18)	Hatha (50%; n=18)
Race			
White	63.9% (n=23)	50.0% (n=9)	77.8% (n=14)
Black or African American	30.6% (n=11)	44.4% (n=8)	16.7% (n=3)
Other	2.8% (n=1)	0.0% (n=0)	5.6% (n=1)
Missing	2.8% (n=1)	5.6% (n=1)	0.0% (n=0)
Ethnicity			
Hispanic or Latino	25.0% (n=9)	38.9% (n=7)	11.1% (n=2)
Not Hispanic or Latino	75.0% (n=27)	61.1% (n=11)	88.9% (n=16)
Sex			
Male	86.1% (n=31)	88.9% (n=16)	83.3% (n=15)
Female	13.9% (n=5)	11.1% (n=2)	16.7% (n=3)

*As documented in the VA Corporate Data Warehouse administrative data

RESULTS – INITIATION

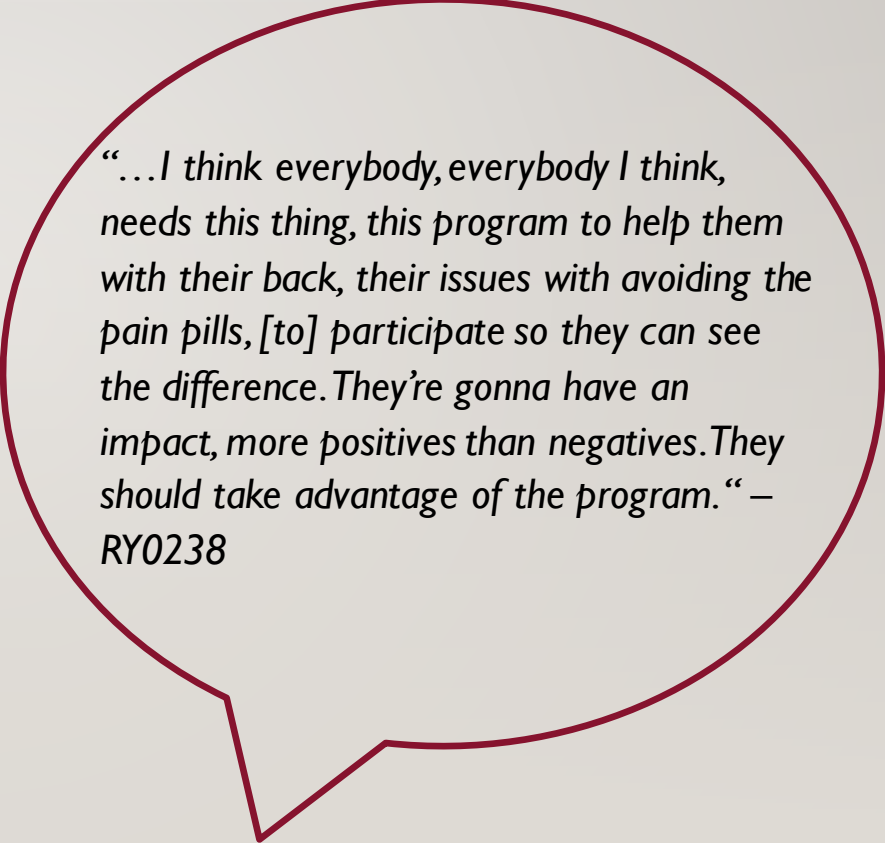
- Cohort One:
 - 17/18 attended at least one session
- Cohort Two:
 - 14/18 attended at least one session
- Initiation did not differ between Veterans randomized to RAP vs. Hatha Yoga (89% vs. 83%)

RESULTS – SUSTAINED ENGAGEMENT

- Veterans randomized to RAP attended more sessions, on average, than those randomized to Hatha yoga (5.9 vs. 4.5, $p=0.35$)
- A greater proportion of Veterans randomized to RAP attended a majority (9/12) of weekly sessions (44% vs. 17%, $p=0.07$)

RESULTS – RAP PROGRAM EXPERIENCES

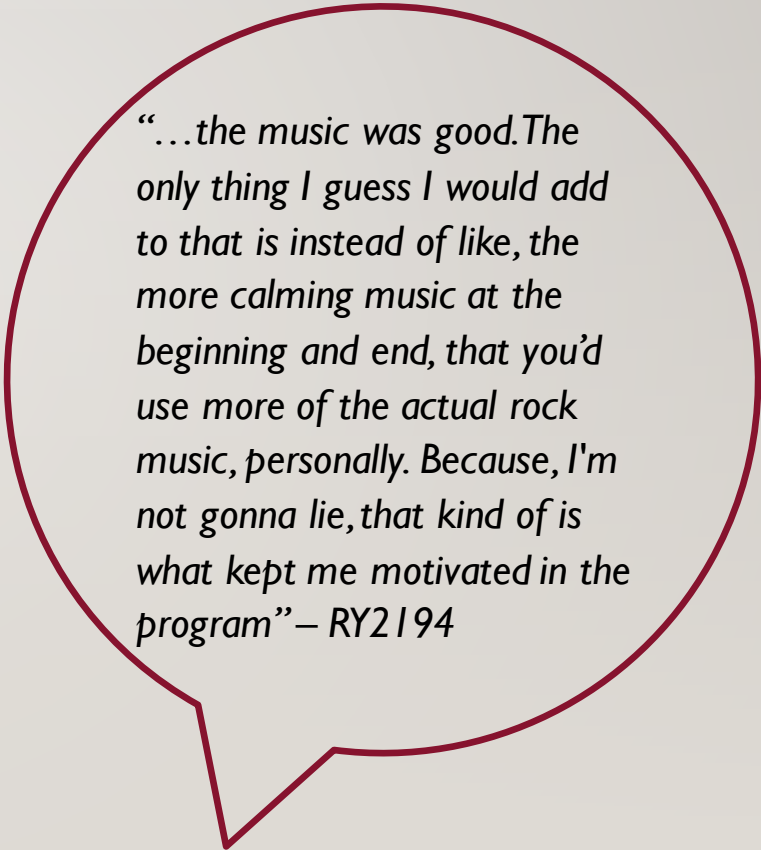
- In follow-up semi-structured interviews, Veterans randomized to the RAP program (n=8) reported:
 - Satisfaction with program length; however, multiple Veterans expressed wishing the program was longer in duration or that the classes met more frequently
 - Feeling supported by the instructors
 - Appreciating the receipt of yoga supplies
 - Recognizing the potential of the program to address the needs of Veterans with various health issues



“...I think everybody, everybody I think, needs this thing, this program to help them with their back, their issues with avoiding the pain pills, [to] participate so they can see the difference. They’re gonna have an impact, more positives than negatives. They should take advantage of the program.” – RY0238

RESULTS – RAP PROGRAM EXPERIENCES

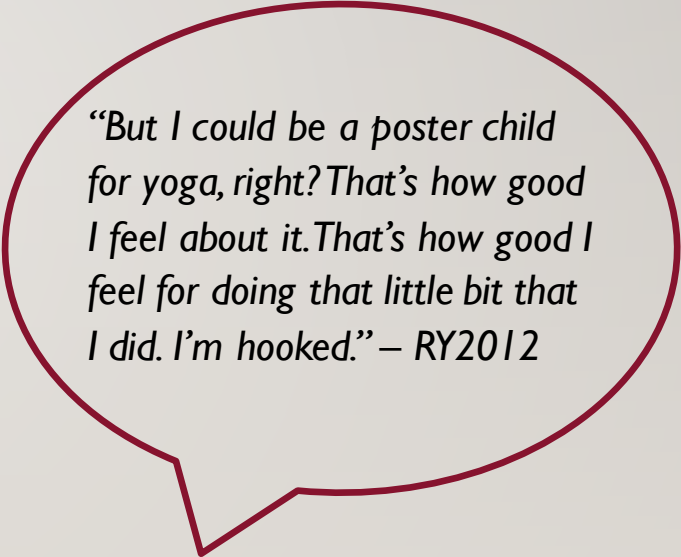
- In follow-up semi-structured interviews, Veterans randomized to the RAP program (n=8) reported:
 - Liking the progression of intensity from week to week (starting in chair, moving to floor)
 - Continuing to practice the stretches learned at home
 - The music selections were a source of motivation; however, one Veteran said they would have preferred to set the sessions to their own music preference



“...the music was good. The only thing I guess I would add to that is instead of like, the more calming music at the beginning and end, that you’d use more of the actual rock music, personally. Because, I’m not gonna lie, that kind of is what kept me motivated in the program” – RY2194

RESULTS – HATHA YOGA PROGRAM EXPERIENCES

- In follow-up semi-structured interviews, Veterans randomized to the Hatha yoga program (n=12) reported many comparable experiences:
 - Liking the progression of intensity from week to week
 - Appreciating the receipt of yoga supplies and home practice manual
 - Feeling supported by the instructors
 - Being interested in continuing if more classes were offered
 - Continuing their practice at home



“But I could be a poster child for yoga, right? That’s how good I feel about it. That’s how good I feel for doing that little bit that I did. I’m hooked.” – RY2012

RESULTS – PATIENT-REPORTED OUTCOMES

- Although not statistically significantly different, improvements were (observationally) more pronounced among Veterans in RAP on some outcomes...
 - Pain Intensity: RAP (m=5.1 vs. m=4.0); Hatha yoga (m=6.4 vs. m=5.9)
 - Pain Interference: RAP (m=63.0 vs. m=59.2); Hatha yoga (m=64.6 vs. m=63.8)
 - Sleep: RAP (m=14.5 vs. m=11.1); Hatha yoga (m=15.9 vs. m=14.5)
- But, other outcomes improved about the same among Veterans in RAP vs. Hatha yoga...
 - Back pain-related function: RAP (m=10.1 vs. m=8.5); Hatha yoga (m=14.1 vs. m=12.2)
 - Stress: RAP (m=8.2 vs. m=7.1); Hatha yoga (m=8.1 vs. m=7.8)
 - Depression: RAP (m=9.1 vs. m=7.6); Hatha yoga (m=9.6 vs. m=8.2)

RESULTS – PERCEIVED IMPACTS OF RAP

- In follow-up semi-structured interviews, Veterans randomized to the RAP program (n=8) reported:
 - Perceived improvements in back pain
 - Improved function and mobility, carrying less tension
 - Improved mood, sleep, energy
 - Decreased use of pain medications (e.g., lidocaine, acetaminophen, gabapentin, opioids) and steroid injections

“Cuz I was in the Marine Corps for six years back in 1972, '72 to '78, and I've had these problems with my back for a long time. And it's kind of like, I'm relieved, really. And I didn't think I would find anything to stop the pain. But, like I said, I'm not in no pain right now at all. And I think just by stretchin' a little, makin'—stretchin' for an hour helped me a lot, helped me intensely.” – RY2135

“I've always had a lot of tension and stuff in my shoulders and neck area and stuff and the exercises and stretchin' and stuff helped that some and I've learned to, like I said, change my posture and stuff so I'm not always tense and stuff in my upper extremities.” – RY0386

“...but with attending, I mean, it helped me so much. I wish I—I mean I feel so good about not taking gabapentin or the Norco for pain and the other one for muscle relaxer.” – RY0238

RESULTS – PERCEIVED IMPACTS OF HATHA YOGA

- In follow-up semi-structured interviews, Veterans randomized to the Hatha yoga program (n=12) reported some comparable impacts:
 - Perceived reductions in pain, although one Veteran described those improvements as short term
 - Improved mobility/flexibility
 - Reduced stress, improved sleep

“I think there’s improvement. I feel a little bit more nimble with the tryin’ to follow through with the exercises and everything that I learned in the class it’s given me a little bit better mobility in my back.”

– RY0692

“That’s another thing. I wasn’t sleepin’ well for a while. I attribute that to havin’ the pain I was havin’ in my shoulder and in my back. I’d be up every hour, hour and a half going to the bathroom, turnin’ over, tryin’ to get comfortable. And I don’t—I sleep really good now.”

– RY2012

LIMITATIONS

- Overall study delay due to COVID
- Single-site, small sample
 - Limited generalizability and statistical power
- Basic analyses conducted do not control for confounding
- The RAP and Hatha yoga groups were led by different instructors
- Early timing of the class and weather may have limited participation

CONCLUSIONS

- Lower-lift, opt-in recruitment generates high interest and may be sufficient for larger trial efforts
- RAP is feasible to implement and acceptable to Veterans
 - Initiation of RAP and Hatha yoga did not differ among participants, but sustained engagement in RAP may be higher

CONCLUSIONS

- Outcomes improved among Veterans in both groups pre/post
 - But, some outcomes may have improved more among Veterans in RAP vs. Hatha yoga, including pain intensity and pain interference
 - May be related in part to better sustained engagement

IMPACTS AND IMPLICATIONS

- Alternatives-to-yoga programs that include high intensity stretching may be helpful to Veterans seeking ways to manage their pain
 - Perceived improvements in tension, flexibility, function
 - Reductions in reliance on other approaches to pain management
 - Generally positive experiences
- Next step: large RCT focused on the RAP program

THANK YOU!

- Comments or Questions?
- Email: Bella.Etingen@va.gov

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