Mantram Repetition Program Compared to Present Centered Therapy for Veterans with PTSD: A Randomized Trial

Jill E. Bormann, PhD, RN, FAAN
Associate Nurse Executive/Nursing Research
Clinical Professor/jill.bormann@va.gov

Presented 10-28-2015
UCSD Grand Rounds for Integrative Complementary Health

VA San Diego Healthcare System
Center of Excellence for Stress & Mental Health
Hahn School of Nursing & Health Sciences, University of San Diego
San Diego, CA
Acknowledgements

Funding: VA Office of Research & Development
VA CSR&D - Meditation & PTSD (SPLE-003-11S)
ClinicalTrials.gov identifier: NCT01506323

Contents do not represent the views of Department of Veterans Affairs or the United States Government. Authors have no conflicts of interest.
Portable Mantram Meditation for Veterans with Military-Related PTSD

Research Team

San Diego
Jill E. Bormann, PhD, RN, FAAN
Steven R. Thorp, PhD
Ariel J. Lang, PhD
Erik Groessl, PhD
Susan R. Tate, PhD
Pia Heppner, PhD
Carie Rodgers, PhD
Danielle Beck, MPH, CCRC
Katie Warren, NP, RN
Ann Kelly, MSN, RN
Alexandra Badone, MA, SW
Michelene Wasil, MFT

Bedford
A. Rani Elwy, PhD
Mark Glickman, PhD
Dorothy Plumb, MA
Princess Osei-Bonsu, PhD
Tu Ngo, PhD
Lawrence Herz, MD
Shibei Zhao, MPH
Jennifer Johnston, PhD
Emily Mohr, PhD
Grand Rounds Objectives

• Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems, as well as the promotion of health.

• Demonstrate the application of scientific methodology to clinical situations.

• Know and apply the basic sciences which are appropriate to their discipline.

• Demonstrate effective communication skills with patients, families and professional associates.
Specific Objectives

1. Identify the components of the Mantram Repetition Program (MRP) vs Present Centered Therapy (PCT).

2. Describe results of a RCT comparing MRP to PCT for PTSD in Veterans.

3. Summarize “lessons-learned” and next steps for future studies.
Introduction

- 23% of Iraq/Afghanistan Veterans have PTSD
- 30-50% of Veterans fail to show clinically meaningful improvements from Prolonged Exposure (PE) or Cognitive Processing Therapy (CPT)
- Drop out rates range from 18-44%
- 60% of Veterans fail to begin or drop out due to avoidance and fear of reliving trauma
- Need for non-trauma focused therapies and alternatives
Growing interest in spirituality and health
Relaxation Response (Benson, 1996)
Transcendental Meditation (Walton et al. 2003, 2004)
Rosary & yoga mantra (Bernardi et al. 2001)
Real versus “placebo” mantra (Wolf & Abell, 2003)
Secular versus spiritual words (Wachholtz & Pargament, 2005, 2008)
Structural changes in brain/neuroplasticity (Lazar, 2005)
Why mantra, not mantram?

Sanskrit root word

Mantra: manas = mind, trai = to cross
Mantram: “to cross over the mind”

5. Compose a mantra and repeat it. Or use this one: “My head will not explode.”

Not even a good affirmation!
A mantram is not a

1. Slogan
2. Motto
3. Affirmation
4. Created self-talk
5. Song or poem
## Mantram Examples

<table>
<thead>
<tr>
<th>Mantram (pronunciation)</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Om Mani Padme Hum (Ohm Mah-nee Pahd-may Hume)</td>
<td>An invocation to the jewel (Self), in the lotus of the heart</td>
</tr>
<tr>
<td>Namo Butsaya (Nah-mo Boot-sie-yah)</td>
<td>I bow to the Buddha</td>
</tr>
<tr>
<td>My God and my All</td>
<td>St. Francis of Assisi’s mantram</td>
</tr>
<tr>
<td>Maranatha (Mar-ah-nah-tha)</td>
<td>Lord of the Heart (Aramaic)</td>
</tr>
<tr>
<td>Kyrie Eleison (Kir-ee-ay Ee-lay-ee-sone)</td>
<td>Lord have mercy</td>
</tr>
<tr>
<td>Jesus, Jesus or Lord Jesus Christ</td>
<td>Son of God</td>
</tr>
<tr>
<td>Hail Mary, full of grace the Lord is with you</td>
<td>Catholic Rosary</td>
</tr>
<tr>
<td>Om Prema</td>
<td>A call for universal love</td>
</tr>
<tr>
<td><strong>Rama</strong></td>
<td><strong>Eternal Joy within (Gandhi)</strong></td>
</tr>
<tr>
<td>So Hum</td>
<td>I am that Self within</td>
</tr>
<tr>
<td>Om Shanti</td>
<td>In invocation to eternal peace</td>
</tr>
<tr>
<td>Shalom</td>
<td>Peace, wellness</td>
</tr>
<tr>
<td>Sheheena</td>
<td>Feminine aspect of God</td>
</tr>
</tbody>
</table>
MRP Components

Psycho-spiritual health education/skills

1. Mantram Repetition -- Sanskrit root word “mantra”
   - “to cross the mind” or “set free from the mind”
   - to be repeated silently, day or night, to train attention
   - portable, concentrative practice; meta-cognition

2. Slowing Down – intention with awareness
   - awareness of being “speeded up!”
   - “intentionality” versus “automatic pilot”
   - setting priorities

3. One-Pointed Attention
   - doing one thing at a time versus multi-tasking
   - mindful attention on mantram or some other task
Mantram Repetition Program*

Meditation-based tools for emotional regulation
Ancient, universal practices, cross-cultural

1. Mantram Repetition
2. Slowing Down
3. One-Pointed Attention

*Adapted from 8 Point Program (E. Easwaran)
How to Use a Mantram

1. Choose a mantra word or phrase
2. Repeat it silently
3. Passively ignore other thoughts
4. Repeat silently as often as possible throughout the day/night
5. Use it when you don’t need it first!
6. You will automatically use it when you DO need it!
Example of Training
Attention

“Rama Rama Rama”

- change oil
- pay bills
- Uh Oh!

Opportunity to Train Attention!
Growing Empirical Evidence

Effects of Spiritual Mantram Repetition on HIV Outcomes: A Randomized Controlled Trial

Jill E. Bormann,1,2,6 Allen L. Gifford,3 Martha Shively,1,2 Tom L. Smith,1,4 Laura Redwine,4 Ann Kelly,1 Sheryl Becker,1 Madeline Gershwin,1 Patricia Bone,5 and Wendy Belding5

Frequent, Silent Mantram Repetition
A Jacuzzi for the Mind

CHAPTER 7

Mantram or Holy Name Repetition: Health Benefits from a Portable Spiritual Practice

JILL E. BORMANN AND DOUG OMAN

SPIRIT, SCIENCE, and HEALTH

HOW THE SPIRITUAL MIND FUELS PHYSICAL WELLNESS

Edited by Thomas G. Plante and Carl E. Thoresen
Foreword by Albert Bandura
Mantram Repetition Practice in Veterans with PTSD

Mindful Attention Increases and Mediates Psychological Outcomes Following Mantram Repetition Practice in Veterans With Posttraumatic Stress Disorder

Bormann, Jill E.; Oman, Doug; Walter, Kristen H.; Johnson, B.
The triggering of a global inhibition by the minimally demanding repetitive speech may account for the long-established psychological calming effect associated with commonly practiced Mantra-related meditative practices.
Hypotheses (Summarized)

Veterans randomized to Mantram Repetition Program (MRP) will have greater improvements in *symptoms* from:

1) baseline (week 0) to post-treatment (week 8)
2) baseline (week 0) to follow-up (week 16)

than Veterans randomized to a Present Centered Therapy (PCT) control condition.

**Analysis:** Random effects normal linear regressions for response variables; adjusting for pre-treatment socio-demographic and clinical control variables. Estimated the treatment-by-time interaction as the effect of interest. False discovery rate for multiple testing. Intent to treat and sensitivity analysis.
Research Study Design

Drop out Mantram = 21%
Drop out PCT = 12%
# Treatment Conditions Individually

<table>
<thead>
<tr>
<th>Treatment Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mantram Repetition Program (n=89)</strong></td>
<td><strong>Present Centered Therapy (PCT) (n=84)</strong></td>
</tr>
<tr>
<td>8 weeks (1 hour/week) Individual sessions</td>
<td>8 weeks (1 hour/week) Individual sessions</td>
</tr>
<tr>
<td>PTSD Education</td>
<td>PTSD Education</td>
</tr>
<tr>
<td>Therapeutic Relationship</td>
<td>Therapeutic Relationship</td>
</tr>
<tr>
<td>No trauma discussion</td>
<td>No trauma discussion</td>
</tr>
<tr>
<td>Skills training on how to:</td>
<td>Current issues only Problem-solving</td>
</tr>
<tr>
<td>- choose &amp; use mantram</td>
<td>-</td>
</tr>
<tr>
<td>- slowing down</td>
<td>-</td>
</tr>
<tr>
<td>- one-pointed attention</td>
<td>-</td>
</tr>
</tbody>
</table>
Outcome Measures

- Clinician Administered PTSD Scale – IV (CAPS)
  - Re-experiencing
  - Avoidance
  - Hyperarousal
- PTSD Check list Military - IV (PCL-M)
- Insomnia Severity Index (ISI)
- Personal Health Q for Depression (PHQ-9)

Higher scores indicate greater severity
Inclusion/Exclusion

• 18 years of age or older
• PCL-M >= 50 & CAPS >= 45
• No psychotic symptoms or unmanaged bipolar disorder
• No active suicidal ideation or recent attempts
• No substance dependence, past 6 weeks
• No medication changes; on stable dose of meds
• No current meditation practice or PTSD treatment
• Agree not to practice other “complementary and alternative medicine” approaches during project
## Demographics

<table>
<thead>
<tr>
<th></th>
<th>Mantram (n=89)</th>
<th>PCT (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (M ± SD) – range 22 to 74 years</td>
<td>48.3 ± 14.63</td>
<td>49.5 ± 14.50</td>
</tr>
<tr>
<td>Male sex, n (%)</td>
<td>73 (82)</td>
<td>74 (88)</td>
</tr>
<tr>
<td>Female sex, n (%)</td>
<td>16 (18)</td>
<td>10 (12)</td>
</tr>
<tr>
<td>Hispanic, n (%)</td>
<td>13 (15)</td>
<td>17 (20)</td>
</tr>
<tr>
<td>Non-Hispanic, n (%)</td>
<td>76 (85)</td>
<td>67 (80)</td>
</tr>
<tr>
<td>White, n (%)</td>
<td>60 (67)</td>
<td>51 (61)</td>
</tr>
<tr>
<td>Native Hawaiian/Pacific Islander, n (%)</td>
<td>14 (16)</td>
<td>11 (13)</td>
</tr>
<tr>
<td>American Indian or Alaska Native, n (%)</td>
<td>2 (2)</td>
<td>4 (5)</td>
</tr>
<tr>
<td>African-American, n (%)</td>
<td>1 (1)</td>
<td>6 (7)</td>
</tr>
<tr>
<td>Asian, n (%)</td>
<td>4 (4)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>More than one race, n (%)</td>
<td>8 (10)</td>
<td>10 (12)</td>
</tr>
<tr>
<td>Partnered/Married, n (%)</td>
<td>30 (34)</td>
<td>28 (33)</td>
</tr>
<tr>
<td>Non/partnered (single, divorced, widowed)</td>
<td>59 (66)</td>
<td>56 (67)</td>
</tr>
</tbody>
</table>
## Demographics (con’t)

<table>
<thead>
<tr>
<th></th>
<th>Mantram (n=89)</th>
<th>PCT (n=84)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or less</td>
<td>23 (26)</td>
<td>20 (24)</td>
</tr>
<tr>
<td>Some college</td>
<td>41 (46)</td>
<td>51 (61)</td>
</tr>
<tr>
<td>Bachelor degree or higher</td>
<td>25 (28)</td>
<td>13 (15)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>14 (16)</td>
<td>13 (15)</td>
</tr>
<tr>
<td>Part-time</td>
<td>4 (4)</td>
<td>9 (11)</td>
</tr>
<tr>
<td><strong>Unemployed</strong></td>
<td>71 (80)</td>
<td>62 (74)</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$20,000 or less</td>
<td>27 (30)</td>
<td>34 (41)</td>
</tr>
<tr>
<td>$20,001 – $40,000</td>
<td>35 (40)</td>
<td>22 (26)</td>
</tr>
<tr>
<td>$40,000 or greater</td>
<td>27 (30)</td>
<td>28 (33)</td>
</tr>
<tr>
<td><strong>Medications prescribed for PTSD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>59 (66)</td>
<td>54 (64)</td>
</tr>
</tbody>
</table>
Design Integrity

Block Random Assignment
To insure both groups had equivalent numbers of veterans taking prescription medications for PTSD.

Treatment Fidelity
All sessions tape-recorded and 15% randomly selected for review by experts using content checklist.

Inter-rater Reliability for CAPS
All sessions audio-recorded and 10% randomly selected for review.
Results
Change in CAPS Scores by Groups over Time
Range 0-136 (N=173)

Mean Scores

Week 0  |  Week 8 (post-tx)  |  Week 16

Mantram Tx

- Week 0: 77.5
- Week 8: 75.61
- Week 16: 59

Present Tx

- Week 0: 62.07
- Week 8: 59
- Week 16: 50.62

p = 0.002
p = 0.08

Change Range: -16.61 to -26.88
Change in CAPS Avoidance Scores by Groups over Time (Range 0-56)

Mean Scores

- Mantram
- Present Centered

Week 0 | Week 8 (post-tx) | Week 16 (follow-up)
-------|-----------------|---------------------
30.3   | 29.4            | 22.3
24.7   |                 |                     
20     |                 |                     
18     |                 |                     

*p = 0.01, p = 0.08*
Change in CAPS Hyperarousal Scores by Groups over Time (Range = 0-40)

Mantram

Present Centered

Mean Scores

Week 0  Week 8 (post-tx)  Week 16 (follow-up)

25.5  17.8  17

24.6  22.2  21.1

p < 0.001  p = 0.006
Change in PCL-M by Groups over Time

Range 17 - 85

Mean Scores

Baseline | Post-treatment | 2-Mo Follow-up
--- | --- | ---
57.57 | 50.2 | 48.42
59.23 | 45.32 | 44.74

*p = .01*

*p = .11*
Change in Insomnia Severity Index Scores by Groups over Time (Range 0-28)

Mean Scores

22-28 = Severe insomnia
15-21 = Moderately severe
8-14 = Subthreshold insomnia*
0-7 = No significant insomnia

Week 0  Week 8 (post-tx)  Week 16

18.33  16.62  15.92
16.35  p<0.001
14.22
12.74*
Depression (PHQ-9) by Group over Time
Range 0-27

Mean Scores

15.42
15.15
12.81
12.18

10.68
10.51

Non-significant

10-14 moderate depression
15-19 moderately severe

Baseline Post-treatment 2-Mo Follow-up

Mantram
PCT

Range 0-27

10-14 moderate depression
15-19 moderately severe
Strengths/Weaknesses

- Largest clinical trial on MRP to date
- Two sites to increase generalizability/women
- Active control condition
- Block randomized for medication
- Blind interviewers
- Treatment fidelity and inter-rater reliability accounted
- Manualized/standardized interventions (replicable)

- No long-term follow-up
- No bio-marker data
Summary

- Both Mantram and PCT show clinically meaningful improvements in PTSD symptom severity by CAPS
- Lower drop-out rates than other therapies
- Neither condition reduced PTSD symptoms to below diagnostic threshold (i.e., $M \leq 45$ on CAPS)
- Similar findings as Polusny et al. (2015) comparing MBSR to PCT suggesting meditation-type therapies offer therapeutic options
Next Steps?

Future studies to include:

- Homeless women
- Bio-markers/brain imaging/HRV
- Military sexual trauma
- Employee burnout/nursing “presence”
- Delivery of MRP by chaplains
- Dissemination Projects
- Enlist other PI’s to study MRP
Portable Mindful Strategies for a Healthy Workforce: Mantram Repetition Series

What employees are saying after taking Mantram Repetition:

“I’m able to focus on projects one at a time, better. I’m able to assist Veterans in a calmer manner.”

“Slowing down will help me focus on the Veteran's goals, rather than focusing on my goals as a provider.”

“The subject matter helping me normalize some of my internal struggles, allowing me to explore the issue more deeply, with the goal of facilitating change.”

“It was the greatest gift given to me for the rest of my life.”
Contact Info

jill.bormann@va.gov

www.jillbormann.com/

“We are shaped by what gains our attention and occupies our thoughts.”

E. Easwaran