Stress Management & Resiliency Training (SMART): Applications for Health Care Providers and Patients

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- Evelyn Sikorski, CSW, CEAP, Manager Employee Wellness & Employee and Family Assistance Program
- Cara Feldman-Hunt, MA, Program Manager UVM Integrative Health
Agenda Tonight

- Our collaborative aim
- About Benson Henry Institute (BHI) and the Stress Management and Resiliency Training (SMART)
- What did we do?
- What are we doing?
- RR practice
- SMART panel
- Open discussion & questions
An Integrative Collaboration is Born

- **Jane Nathan**: BHI trained to implement their Stress Management & Resiliency Training (SMART) to med students, residents, healthcare practitioners and patients.
- **Cara Feldman-Hunt**: Extensive integrative health programs on UVM campus
- **Evelyn Sikorski**: Innovative employee wellness programs UVMMC

**Common interest**: To find a unified program of stress management appropriate for practitioners, patients, employees, students etc. across the UVM medical and educational campus (UVMMC, CNHS, and COM).

How about the BHI SMART program?
BHI- Integrative collaboration between Harvard Medical School (HMS) and Mass General Hospital (MGH)

*Herbert Benson* - Cardiologist and pioneer who 50 years ago hypothesized a remarkable, new idea in medicine:

*Slowing down your breath might help treat hypertension*

- Studied with Buddhist monks, TMs in the 1960s
- Was ridiculed as a quack
- HMS tried to fire him - for over 30 years!
Discovered: Relaxation Response (RR):

* Hypothalamic mediated reaction → decreased sympathetic nervous system activity, decreased heart rate, lower metabolism and decreased respiratory rate and increased oxygen flow

* Physiological opposite of fight or flight stress response

Research is in: THIS IS SCIENCE!

Question no longer is “Does it work?” but “How it works?”
“Isn’t it wonderful, we’ve gone from ridicule to science!”
Our Initial Aim

• To determine the benefits of SMART to leaders and health care professionals in the UVM community.

• To determine their interest to bring the SMART model forward to staff, patients, families and students in the UVM academic and health sciences.
What’s the Problem with Stress?

**Chronic Stress** (bottom up/red) → *amygdala* → hormone & cortisol release → inflammatory response → degradation mood stabilization neurotransmitters → stress response chronically over stimulated (fight or flight mode)

- Infection
- Tissue damage
- Reduced mood stabilization
- Cellular imbalance → poor use of oxygen

**RR** (top down/blue) → *prefrontal cortex* → use oxygen more efficiently → better mental & physical resilience, sleep, digestion, mood, sense of well being, immune response, blood pressure, cholesterol
Prefrontal regulation during alert, non-stress conditions

Dorsal Medial Pre Frontal Cortex (DMPFC)
- Reality testing
- Error monitoring

Dorsal Lateral PFC (DLPFC)
- Top-down guidance of attention and thought

Right Inferior PFC (RIPFC)
- Inhibits inappropriate motor actions

Ventral Medial PFC (VMPFC)
- Regulates emotion

Amygdala control during stress conditions

Arnsten, 2009
Your Brain on Stress

A. Stress

- Adrenal gland
- Pituitary
- Dorsal vagal complex

B. Infection, tissue damage or destruction

- Macrophage
- Inflammation
  - Pro-inflammatory cytokines
  - Chemokines
  - Adhesion molecules
  - Acute phase reactants
HOW STRESS AFFECTS THE BODY

**BRAIN**
Difficulty concentrating, anxiety, depression, irritability, mood, mind fog

**CARDIOVASCULAR**
Higher cholesterol, high blood pressure, increased risk of heart attack and stroke

**JOINTS AND MUSCLES**
Increased inflammation, tension, aches and pains, muscle tightness

**IMMUNE SYSTEM**
Decreased immune function, lowered immune defenses, increased risk of becoming ill, increase in recovery time

**SKIN**
Hair loss, dull/brittle hair, brittle nails, dry skin, acne, delayed tissue repair

**GUT**
Nutrient absorption, diarrhea, constipation, indigestion, bloating, pain and discomfort

**REPRODUCTIVE SYSTEM**
decreased hormone production, decrease in libido, increase in PMS symptoms
What is SMART?

- Developed over 40 years research at BHI
- Teaches participants resiliency to stress over 8 weeks, 2hr/wk group sessions
- Lots of education, group exercises and homework
- Provides:
  - A wide array of tools inclusive of all interests, personalities and motivation level
  - Includes only evidence-based strategies from:
    - Positive psychology literature
    - Established CBT techniques
    - Life satisfaction, mindfulness & meditative literature
Components of SMART

✓ Elaborations on the neuroscience of stress
✓ How to elicit the relaxation response (RR) through mindful and meditative practice
✓ ID personal response to stress- impact, how to intervene
✓ Metacognitive - How we think and how that affects us
✓ Retraining prefrontal cortex; promotion of adaptive coping
✓ Scientific rationale for resilience-based lifestyle behaviors; i.e., nutrition, exercise, restorative sleep and social support
✓ Motivational/behavioral strategies for successful behavior change
SO… What Does SMART Look Like??

RR Elicitation
- Single-Pointed Focus/Breath Awareness
- Body Scan
- Loving Kindness
- Contemplation
- Minis
- Mindful Awareness
- Yoga/Mindful Movement
- Guided Imagery

Stress Awareness
- Relational
- Behavioral
- Cognitive
- Emotional
- Physical

Adaptive Strategies
- Positive Perspectives
- Healthy Lifestyle Behaviors
- Reappraisal and Coping
- Social Connectedness

Decreasing the Stress Response
Promoting the Relaxation Response
Promoting Growth Enhancement

Resiliency

adapted from Park ER, *Psychosomatics*, 2013.
Is There Data to Support SMART?

• Palliative care practitioners who took SMART perceived less stress and had increased perspective taking.

• 2015 retrospective study found 4452 MGH patients who took SMART utilized healthcare 43% less the year after taking part.
  ➢ Clinical encounters down 42%
  ➢ Imaging down 50%
  ➢ Lab encounters down 44%
  ➢ Procedures down 21%
  ➢ Emergency room visits down from 3.6 to 1.7/year
• Compared to 13,149 control patients matched for health care utilization, SMART participants had 25% lower utilization across all clinical categories.

• Cost savings estimated to be between $640 and $25,500 per patient per year.

• Conclusion: SMART could help reduce individual disease burden and utilization of healthcare resources.

Mehta et al 2016; Stahl et al 2015
Why Do This With Healthcare Providers?

The Negative Trajectory of Stress for Healthcare Providers

**Stress → Job Burnout**

- Job dissatisfaction/absenteeism/job turnover
- Negative emotional states (depression, anxiety, substance use/abuse, suicide)
- Poor physical health (sleep disturbance, chronic conditions, frequent illness)
- Decreased empathy (patient and self)
- Compromised patient quality of care and satisfaction
- Increased medical errors and costs

Maslach2001; Shanafelt2002; Vahey2004; McCray 2008; Dyrbye2008; Poghosyan2010; West 2011; Cimiotti2012; Morse 2012; Green 2014; Shanafelt2016; Salyers2017.
Burnout: A Very Serious Epidemic

~ 50-75% medical students & resident physicians

~ 54% of attending physicians

~ 37-86% nurses

~ 21-67% mental health clinicians

Dossett 2017
What Did We Do?

**Who:** Invited 20 leaders and healthcare professionals from the UVMMC, LCOM & CNHS

**Age/gender:** X=50; 20% male; 80% female

**Role:** 35% admin; 50% clinical; 10% mix; 5% supervisory

**When:** 8 Fridays; 8:30-10:30am; Jan-Mar 2017

**Facilitators:** Researchers from BHI came up from Boston weekly to lead the sessions

**Funding:** Generously provided through a special employee wellness fund from BlueCross BlueShield of Vermont
Pre/Post Measures

✓ Knowledge, Beliefs & Practice of MBM Interventions

✓ Perceived Stress Scale (PSS): 10 item; 5 point scale; score range 0-40; lower score = less stress

✓ Mindful Awareness and Attention Scale (MAAS): 15 item; 6 point scale; range 15-90; higher score = more mindful/aware/attentive

✓ Mid Training, Post Training 8-week and 9 month Follow-Up Qualitative Use and Satisfaction Surveys
Results

✓ 90% of these extremely busy professionals - with jobs on and off site - participated in at least 7 of the 8 sessions (Friday mornings)

✓ Significant increases were found in their personal use of daily meditation and conscious mindful practice.

(paired t-test; pre/post survey; t(17) = -4.53, p .000)
Significant decreases found in perceived stress. (paired t-test; $t(18) = 3.85, p. 001$)

Greatest item shifts included feeling:

- Increased control of the important things in life
- Less stress over unexpected events
- Less nervous and “stressed” in general
- More on top of things
- Better able to overcome difficulties
- Less anger due to things out of your control
Significant increases found in mindful awareness and attention.

(paired t-test, t(18) = -4.65, p.000)

Greatest item shifts:

- Less rushing through activities; more concerted directed attention
- Better able to listen with focused attention
- Better staying in and focusing on the present to complete goals
- Less running on “automatic”; greater awareness of “doing”
- Better remembering someone’s name
Follow-Up

• 15/20 came back mid workday for an 8 week reunion
• 86% experiencing positive impact on job burnout
• 93% integrating SMART practice into their professional lives
• 100% experiencing successful integration of extended SMART practice into their personal lives
• 86% wanted ongoing group connection
• 9 month follow up: 12/20 came - 100% were still using SMART principles successfully in personal and professional lives
Participant Comments

• “Wonderful curriculum and practitioners – I enjoyed it and found it very worthwhile.”
• “Excellent exposure to practices, science, group camaraderie, great faculty.”
• “I am so much less stressed now.”
• “I hope we can offer more sessions and get people trained to teach.”
• “Completely enjoyed this – it has expanded the depth of my practices and the services I extend to patients and employees.”
• “…this has been one of the most beneficial trainings I have every done.”
• “Thank you for this great opportunity.”
Lessons Learned

- 100% of these busy professionals endorsed that they very much enjoyed participating in SMART.
- 100% recommended the model for various populations:
  - Other healthcare leaders and administrators
  - All healthcare professionals and employees
  - Medical and nursing trainees
  - Residents and physicians of all kinds
  - Patients of all kinds and their families
Next Steps

- UVM Foundation Grant to certify three SMART facilitators through the rigorous BHI process while providing SMART to two groups of patients with chronic conditions.

- Frymoyer Scholarship with Drs. Laura McCray and Nathalie Feldman to provide a 6-hour, specially designed and abbreviated version of SMART (called SMART-R) to Family Medicine and Ob-Gyn residents to help mitigate burnout and inspire wellness.
Stress Management and Resiliency Training for Residents (SMART-R)
Why ? Back to Burnout…

➢ ACGME: resident fatigue → resident work hours.
   • Studies show minimal changes in resident wellbeing with time reduction
   • Stress not solely a time problem

➢ Plea nationally for strategies to mitigate burnout
   ✓ Individual intervention
   ✓ Organizational changes
   ✓ Systemic changes
Solutions

* Mindful Living & Practice

- Studies show physicians who practice mindfully:
  - Provide care that stands out
  - Have improved ability to empathize with patients
  - Are better able to find meaning in their work
  - Are healthier, happier and more balanced people

Translation: Happier
healthier docs → better work
environment → improved
patient care → lower costs
HMS/MGH residents saw benefits of SMART to patients

They adapted SMART exercises into an abbreviated 6-hour version for themselves focused on:

- Eliciting the RR
- Gaining personal stress awareness
- Reviewing adaptive coping strategies to learn better ways to manage stress
• Three, two-hour SMART-R sessions with Ob-Gyn and Family Med residents October, January, May
• Texting self care reminders in between
• Evaluating fall-spring changes in
  – Perceived Stress
  – Mindful Awareness Attention
  – Burnout (2-Q)
  – Empathy
  – Knowledge/Beliefs MBM and Practices
  – Program evaluation
• 2nd year: Considering opening up to all residents
**UVM Foundation Grant: Volunteers Wanted for Research Study**

**Criteria**: Stable, medically diagnosed chronic condition; able to commit to coming to 8-weekly sessions

**Rule outs**: Current group *not* recommended for recent or acute physical, mental health or substance issues.

**Cost**: Free (grant funded, $550 value/patient).

Recruitment now in progress for the first group of 20

- Tuesdays January 16 - March 6; 5:30-7:30 pm
- Location: One South Prospect, UHC Burlington

Second group April - June, 2018 (dates TBD)
SMART for Chronic Conditions

For more information, call (802) 847-1089
or email: stressmanagement@uvmhealth.org