Mindfulness-based interventions for co-occurring mental health and addictive disorders

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Cape Cod Symposium on Addictive Disorders
Hyannis, MA
September 13, 2014
ASAM Disclosure of Relevant Financial Relationships

27th Annual Cape Cod Symposium on Addictive Disorders

Presentation: Mindfulness-based interventions for co-occurring mental health and addictive disorders

9/13/14

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<tr>
<th>Name</th>
<th>Commercial Interests</th>
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What is mindfulness and how is it used in treating mental disorders and addiction?

Overview of the core elements of MBCT & MBRP and how they differ

How does it work?

Emotion dysregulation in mental health and addictive disorders
Emotion regulation deficits

A person with social anxiety clenches her hands to avoid shaking as she tries to answer a professor’s question. A person with alcohol dependence drinks himself into oblivion following a bitter divorce. A person with bulimia has a spat with a friend and then gorges herself, all the while feeling out of control. A person with obsessive–compulsive disorder feels intense anxiety and washes his hands until they bleed. A person with depression fights back tears during an unpleasant work meeting.


- Mood and anxiety disorders, borderline and antisocial personality disorders, PTSD, alcohol and drug use disorders
- Nearly 200 DSM diagnoses involve emotion dysregulation
Fad or breakthrough?
Habits of mind and behavior

Auto-pilot

Multi-tasking

Past ← ？ → Future
A definition of Mindfulness

The awareness that emerges from paying attention on purpose and non-judgmentally to the unfolding of experience from moment to moment

Adapted from Jon Kabat-Zinn, 2003
Mindfulness =
Focused Attention + Open Monitoring

Focused attention – directing and sustaining attention on a chosen object, noticing when mind wanders – disengaging and redirecting to object of attention

Open monitoring – non-directed, non-reactive moment to moment awareness of all aspects of experience

Models of clinical interventions

Dialectical Behavior Therapy (DBT) and Acceptance and Commitment Therapy (ACT):

- CBT-based with training in mindfulness skills
- Mindfulness one component among several
- Guided exercises vs. formal meditation
Models of clinical interventions

Dialectical Behavior Therapy (DBT) and Acceptance and Commitment Therapy (ACT):

- CBT-based with training in mindfulness skills
- Mindfulness one component among several
- Guided exercises vs. formal meditation

Practice is at the core of MBSR, MBCT, MBRP:

- Teaching formal meditation practices
- Daily practice 30-45 min.
- Teachers have extensive personal practice & formal training in retreat setting
Mindfulness-Based Stress Reduction
Mindfulness publications by year, 1980 - 2012

Meditation Programs for Psychological Stress and Well-Being

A Systematic Review and Meta-analysis

Madhav Goyal, MD, MPH; Sonal Singh, MD, MPH; Erica M. S. Sibinga, MD, MHS; Neda F. Gould, PhD; Anastasia Rowland-Seymour, MD; Ritu Sharma, BSc; Zackary Berger, MD, PhD; Dana Sleicher, MS, MPH; David D. Maron, MHS; Hasan M. Shihab, MBchB, MPH; Padmini D. Ranasinghe, MD, MPH; Shauna Linn, BA; Shonali Saha, MD; Eric B. Bass, MD, MPH; Jennifer A. Haythornthwaite, PhD

Goyal et al. 2014 – Methods

- Databases searched: MEDLINE, PsycINFO, EMBASE, PsycArticles, Scopus, CINAHL, AMED, Cochrane Library
- Tools used: Systemic review software; random-effects meta-analyses using standardized mean differences (effect size [ES]; Cohen d)
- Only included RCTs with active control groups
- Excluded studies in which meditation was not the foundation – yoga, tai chi, ACT, DBT
- 18,753 citations title-abstract reviewed, 1,651 full-text articles reviewed - 47 trials (N=3515) met inclusion/exclusion criteria
Goyal et al. 2014 – Results

Mindfulness meditation programs had **moderate evidence** of improved anxiety, depression and pain

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<th>Range</th>
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- Insufficient evidence of effect on substance use*
- No evidence mindfulness better than active treatment (drugs, CBT and other behavioral therapies)
Mindfulness-based cognitive therapy for depression
Depression

- The leading cause of disability in the U.S. for ages 15-44
- 2nd leading cause of disability worldwide

WHO The Global Burden of Disease, 2008
Depression treatment outcomes and recurrence

Majority have incomplete response, non-response, recurrence, or drop out of treatment

With each recurrence likelihood of future recurrence increases

Alternatives to long-term antidepressant medication?
Emotional reactivity and Relapse

Segal et al. (2006) Archives of General Psychiatry
The effects of mindfulness-based cognitive therapy on recurrence of depressive episodes, mental health and quality of life: A randomized controlled study

K.A. Godfrin, C. van Heeringen*

Survival Analysis

12/40 = 30%

32/47 = 68%
Improved depressive symptoms and quality of life

[Graph showing BDI scores over time for controls and MBCT groups]

Godfrin & van Heeringen, Behaviour Research and Therapy 48, Iss 8 2010 738 - 746
Antidepressant Monotherapy vs Sequential Pharmacotherapy and Mindfulness-Based Cognitive Therapy, or Placebo, for Relapse Prophylaxis in Recurrent Depression

Zindel V. Segal, PhD; Peter Bieling, PhD; Trevor Young, MD; Glenda MacQueen, MD; Robert Cooke, MD; Lawrence Martin, MD; Richard Bloch, MA; Robert D. Levitan, MD
Emerging evidence for efficacy of MBCT for current episodes of depression

Geschwind 2012 Br J Psychiatry
- N = 130 randomized to MBCT vs. TAU
- Reduction in depression scores greater with MBCT: 30-35% improvement vs. 10%, p<.001

van Aalderen 2012 Psychol Med
- Subjects with recurrent depression randomized to MBCT+TAU (n=102) or TAU alone (n=103)
- MBCT as effective for patients who were currently depressed as for patients who were in remission
Addiction like major depression – a chronic, relapsing condition
Mindfulness-Based Relapse Prevention (MBRP)

- Mindfulness practices with relapse prevention skills training
- Patterned after Mindfulness-Based Cognitive Therapy (Segal et al. 2002)
  - Group format, 8 weekly 2-2.5 hr. sessions
  - Daily home practice w/ CD
- Aftercare or post-detoxification/stabilization
Goals of MBRP

- Increased awareness of triggers and habitual responses
Goals of MBRP

• Increased awareness of triggers and habitual responses
• Cultivate present moment awareness and skillful responses to decrease likelihood of relapse
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• Change our relationship to discomfort, learning to recognize challenging emotional and physical experiences and responding to them in skillful ways
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- Increased awareness of triggers and habitual responses
- Cultivate present moment awareness and skillful responses to decrease likelihood of relapse
- Observe unpleasant thoughts and feelings and accept them without judgment
- Change our relationship to discomfort, learning to recognize challenging emotional and physical experiences and responding to them in skillful ways
- Build a lifestyle that promotes mindfulness practice and recovery
Research on MBRP – Populations studied

- Adults in outpatient treatment
- Adults who recently completed detox or intensive outpatient treatment
- Incarcerated adults with a history of substance abuse
- Smokers
Research on MBRP:
First RCT – Pilot feasibility study (Bowen et al. 2009)

- N=168 from community treatment facilities
- Avg. age 40; 71.5% male; 42.1% ethnic/racial minority
- MBRP vs. RP post-intervention (detox or IOP) vs. TAU
- Pre-post, 2 and 4 month outcomes
- 54% reporting regular meditation practice at 4-month follow-up – 4.7 d/wk, 30 min/session
- 4 month outcomes:
  - days of use 2.1 vs. 5.4 (p = .02)
Research on MBRP: Full-scale RCT (Bowen 2014)

- RCT N=286 from community treatment facilities
- Avg. age 40; 71.5% male; 42.1 % ethnic/racial minority
- MBRP vs. RP post-intervention (detox or IOP) vs. TAU
- 6 and 12 month outcomes
Research on MBRP: Full-scale RCT (Bowen 2014)

6 months:
- MBRP & RP significantly longer time to first drug use and heavy drinking (vs. TAU)
- Significantly fewer days of drug use

12 months:
- MBRP significantly fewer days of drug use (vs. RP/TAU)
- Significantly lower probability of heavy drinking

* Self-report largely confirmed by drug screens

Common elements of MBSR/MBCT/MBRP

Switch out of:
• Automatic pilot
• Avoidance
• Thinking about
• Judging and fixing
• Reactivity
• Unhealthy habits

To:
• Awareness; Intentional mode
• Curiosity and acceptance
• Directly experiencing
• Non-doing and being
• Skillful responding
• Taking care of ourselves and staying well
Common elements of MBSR/MBCT/MBRP

Class structure:
• Guided practice
• Inquiry
• Worksheets, handouts, homework

Teaching style:
• Embodied mindful presence – awareness, acceptance, compassion – reflects personal practice
• Experiential teaching emphasizes investigating experience directly
• Inquiry focuses on present-moment experience vs. story-telling and interpretation
Common elements of MBSR/MBCT/MBRP

**Inquiry**
*This requires the instructor to sharpen his/her ability to listen closely, allow space, refrain from the impulse to give advice, and instead, to inquire directly into the actuality of the participant’s experience.*

Jon Kabat-Zinn, Santorelli 2005

Three layers of inquiry
(Crane, R. 2009)

- **NOTICING**: Observing the direct experience
- **DIALOGUE**: Exploring the effects of bringing awareness to direct experience
- **LINKING**: Exploring how these learnings relate to ways of being with inner and outer experiences in daily life
Common elements of MBSR/MBCT/MBRP

**Formal practices:**
- Body scan
- Mindful movement/yoga
- Walking meditation
- Mindfulness of breath/body/sounds/thoughts

**Informal practices:**
- Mindfulness of daily activities
- Moment to moment awareness
Practice, practice, practice –
Formal meditation practice mediates improvement

Cultivating awareness of the link between activity and mood

Excessive focus on work or other stressors, gradually giving up of activities that we enjoy and nourish us, depletes our energy and resources and leaves us vulnerable to relapse.

Segal, Williams and Teasdale 2013 (adapted from M. Asberg)
MBCT Sessions

1. Awareness and automatic pilot
2. Living in our heads
3. Gathering the scattered mind
MBCT Sessions

1. Awareness and automatic pilot
2. Living in our heads
3. Gathering the scattered mind
4. Recognizing aversion
5. Allowing and letting be
6. Thoughts are not facts

Developing Awareness

Turning toward the unpleasant
MBCT Sessions

1. Awareness and automatic pilot
2. Living in our heads
3. Gathering the scattered mind
4. Recognizing aversion
5. Allowing and letting be
6. Thoughts are not facts

Day of practice

7. How can I best take care of myself?
8. Maintaining and extending new learning

Developing Awareness

Turning toward the unpleasant

Staying well, taking action when mood is low
MBRP Sessions

1. Automatic pilot and relapse
2. Awareness of triggers and craving
3. Mindfulness in daily life
MBRP Sessions

1. Automatic pilot and relapse
2. Awareness of triggers and craving
3. Mindfulness in daily life
4. Mindfulness in high-risk situations
5. Acceptance and skillful action
6. Seeing thoughts as thoughts
MBRP Sessions

1. Automatic pilot and relapse
2. Awareness of triggers and craving
3. Mindfulness in daily life
4. Mindfulness in high-risk situations
5. Acceptance and skillful action
6. Seeing thoughts as thoughts

Day of practice
7. Self-care and lifestyle balance
8. Social support and continuing practice

- Awareness
- Mindfulness
- Acceptance & relapse, acceptance
- Staying well
Informal practices

**MBCT:**
- 3 step breathing space
- 3 step breathing space with difficulty

**MBRP:**
- S.O.B.E.R. breathing space
- Urge surfing
S.O.B.E.R. Breathing space

S  Stop: pause wherever you are
O  Observe: what is happening in your body & mind
B  Breath: bring focus to the breath as an ‘anchor’ to help you focus and stay present
E  Expand awareness: to your whole body & surroundings
R  Respond: mindfully vs. automatically
Integrating Mindfulness and 12 Steps
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Admitted we were powerless over alcohol...

Awareness that we are suffering – that we are the cause of our own suffering and have caused suffering in others
Integrating Mindfulness and 12 Steps

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Awareness that we are suffering – that we are the cause of our own suffering and have caused suffering in others

Came to believe that a Power greater than ourselves could restore us to sanity

Accessing deep inner sources of wisdom that we share with all beings
Integrating Mindfulness and 12 Steps

Admitted we were powerless over alcohol...

Awareness that we are suffering – that we are the cause of our own suffering and have caused suffering in others

Came to believe that a Power greater than ourselves could restore us to sanity

Accessing deep inner sources of wisdom that we share with all beings

Decided to turn if over to a higher power

Letting go of delusions of control, following a wisdom path with an ethical foundation of generosity, compassion and loving-kindness
How does it work?
Meditation experience is associated with increased cortical thickness in specific areas.

- R. anterior insula
- Brodmann area 9/10

Lazar et al. NeuroReport, 16, 1893-97, 2005
8-week MBSR training results in lasting changes in the brain

Stress reduction correlates with structural changes in the amygdala

Britta K. Hölzel,1,2 James Carmody,3 Karleyton C. Evans,1 Elizabeth A. Hoge,4 Jeffery A. Dusek,5,6 Lucas Morgan,1 Roger K. Pitman,1 and Sara W. Lazar1

A

B

C

D

Gray matter concentration change (%) in cluster in the right amygdala

Change in Perceived Stress Scale score
Mindfulness practice leads to increases in regional brain gray matter density

Britta K. Hölzel\textsuperscript{a,b,}\textsuperscript{*}, James Carmody\textsuperscript{c}, Mark Vangel\textsuperscript{a}, Christina Congleton\textsuperscript{a}, Sita M. Yerramsetti\textsuperscript{a}, Tim Gard\textsuperscript{a,b}, Sara W. Lazar\textsuperscript{a}
Sadness provocation elicits:

a) neural activation in midline self-referential processing areas,

b) deactivation in visceral & somatic processing areas
Mindfulness training reduces neural reactivity

Reduced deactivation (red = MT > control)

Reduced activation (blue = Control > MT)

Farb et al., 2010
Emotion regulation pathways
Resting state fMRI provides a measurement of functional brain connectivity

Correlation between seed ROI and other voxels
Amygdala-orbitofrontal functional connectivity is inversely related to trait differences in anger

Fulwiler, Zhang and King 2012, Neuroreport 23(10):606-10
MBSR training changes amygdala functional connectivity

OFC

ACC

PreMBSR

PostMBSR
Second sample: increased amygdala-prefrontal and amygdala-insula connectivity
Conclusions

- To deliver a mindfulness-based intervention with fidelity, the teacher/therapist should have their own practice
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• Rigorous clinical trials have demonstrated the effectiveness of mindfulness for depression, anxiety and prevention of relapse to addictive disorders
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- To deliver a mindfulness-based intervention with fidelity, the teacher/therapist should have their own practice.
- Rigorous clinical trials have demonstrated the effectiveness of mindfulness for depression, anxiety, and prevention of relapse to addictive disorders.
- Improved emotion regulation achieved through sustained meditative practice depends on changes in the brain’s emotion regulation circuitry.
Conclusions

• To deliver a mindfulness-based intervention with fidelity, the teacher/therapist should have their own practice

• Rigorous clinical trials have demonstrated the effectiveness of mindfulness for depression, anxiety and prevention of relapse to addictive disorders

• Improved emotion regulation achieved through sustained meditative practice depends on changes in the brain’s emotion regulation circuitry

• A mindfulness approach is compatible with the 12 steps
Additional information

MBSR  UMass Center for Mindfulness  umassmed.edu/cfm

MBCT  Oxford Mindfulness Center  oxfordmindfulness.org

Mindfulness-Based Relapse Prevention  mindfulrp.com

Professional training in MBCT and MBRP

• UCSD Professional Training Inst.  mbpti.org
• Omega Inst., Rhinebeck NY  eomega.org

12 steps and Mindfulness

• Kevin Griffin  kevingriffin.net
• Thérèse Jacobs Stewart  mindroads.com
• Buddhist Recovery Network  buddhistrecovery.org
Copy of presentation:
umassmed.edu/sparc ->
Publications and Products -> Presentations -> Wellness

http://www.umassmed.edu/
PageFiles/39837/MindfulnessBasedInterventions.pdf

Questions? carl.fulwiler@umassmed.edu