Cynthia Moore MS, RD, CDE, FAND
Beth Frackleton RN, BSN, MEd
University of Virginia

**Objectives**
General: Enhance Expertise in Psychosocial Issues and Promotion of Lifestyle Behavior Change
1. Participants will be able to identify:
   - The skills & benefits of health coaching in diabetes care
   - Mind-body skills that may indicate improved outcomes in DM care and DM self-management
2. Participants will be able to use “lessons learned” from the University of Virginia and University of Maryland experience with group health coaching and mind-body skills instruction to determine what resources might be needed to offer similar programs in your setting.

**Today’s Plan**
- Chronic Health Coaching
  - Contribution to patient/client coping/health outcomes
  - The University of Virginia health coaching experience
- Mind Body skills
  - Evidence re: mood & patient/client coping
  - The University of Maryland-Joslin experience
- Group Coaching & Mind-Body Skills- UVA
  - 3 phases so far!
  - Lessons we are learning

**Disclosure to Participants**
Conflicts of Interest (COI) and Financial Relationship Disclosures:
Presenter: Cynthia Moore MS, RD, CDE, FAND – no conflicts of interest/financial disclosures to report
Presenter: Beth Frackleton RN, BSN, MEd – no conflict of interest/financial disclosures to report

Non-Endorsement of Products:
Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity.
Chronic Care Coaching

“A strong body makes the mind strong.”
Thomas Jefferson

Why Do We Need Health Coaching?

• The problem of non-adherence:
  – 50% of patients with chronic illness take medications as prescribed (10)
  – 10% adhere to lifestyle change recommendations (10)
  – Only 5% engage in each of the following six (2):
    • Regular exercise
    • Healthy fat intake
    • > 5 daily servings of fruits and vegetables
    • Limited drinking
    • Non-smoking
    • Maintaining a healthy weight

What is Health Coaching?

• Creating trusting relationships to give clients the knowledge, skills, and self-efficacy to achieve desired goals in a fulfilling manner (1,6)

• Attributes of the Coach (6):
  • Empathetic
  • Client-focused
  • Active listener
  • Optimistic
  • Empowering
  • Mindful
  • Affirming
  • Collaborative
  • Non-judgmental
  • Zestful

What Can Coaching Accomplish?

• Health coaching has been shown to:
  – Improve adherence to diet and exercise recommendations (4,9,11)
  – Improve glycemic control in type 2 diabetes (3,7,8,10,11)
  – Improve blood pressure control (4,5)

Biometric and Behavioral Outcomes

Changes in biometric and behavioral measures following chronic care coaching from both facilitators

<table>
<thead>
<tr>
<th>Measurement</th>
<th>n</th>
<th>Pre</th>
<th>Post</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic BP (mm Hg)</td>
<td>22</td>
<td>120.3</td>
<td>116.1</td>
<td>-4.2</td>
</tr>
<tr>
<td>Diastolic BP (mm Hg)</td>
<td>22</td>
<td>79.8</td>
<td>72.7</td>
<td>-7.1</td>
</tr>
<tr>
<td>Waist Circumference (in)</td>
<td>22</td>
<td>39.2</td>
<td>37.9</td>
<td>-1.3</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>12</td>
<td>35.7</td>
<td>33.8</td>
<td>-1.9</td>
</tr>
<tr>
<td>Framing Blood Glucose (mg/dL)</td>
<td>10</td>
<td>199.5</td>
<td>189.9</td>
<td>-9.6</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>10</td>
<td>186.0</td>
<td>180.5</td>
<td>-5.5</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>10</td>
<td>127.7</td>
<td>120.1</td>
<td>-7.6</td>
</tr>
<tr>
<td>HDL Cholesterol</td>
<td>10</td>
<td>50.4</td>
<td>54.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Aortic裁酯数 (mmHg)</td>
<td>13</td>
<td>98.3</td>
<td>117.3</td>
<td>19.0</td>
</tr>
<tr>
<td>Fruit (servings/day)</td>
<td>18</td>
<td>1.7</td>
<td>2.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Vegetables (servings/day)</td>
<td>18</td>
<td>2.3</td>
<td>3.3</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Significant at p < .05
Significant at p < .01

Testimonials

“The UVA Chronic Care program has provided an invaluable support to help bridge the gaps between visits with medical specialists, physical therapists, and even psychological services. The care that I have received is personal, integrative, and most importantly, compassionate. Without this program, I would have given up long ago.”
Testimonials

“Chronic Care Coaching has provided structure for a diet and exercise program. I needed someone I’m accountable to and who provides motivation. My recent blood tests show a return to normal levels, my energy is up and I’ve lost weight. Beth has given me a solid foundation on which to build, and helped me find the self-motivation to stick with the effort.”

Testimonials

“The support group has made me feel stronger, more capable of facing challenges, and provided hope that no other service has granted, without adding the stress of more costs and complicated bureaucracy.”

References


Mind-Body Skills

Skills that enhance the capacity to respond rather than merely react to physical or mental stressors
- Skills that enhance control of the autonomic nervous system
  - heart rate, BP, stress hormone levels, glucose

Mind-Body Skills: Examples & Evidence

- Biofeedback (foot warming)
- Progressive Muscle Relaxation
- Yoga Nidra
- Relaxation Response
- Yoga, Walking, Running
- Meditation, Mindfulness Meditation
- Writing for Health/Journaling
References

University of Maryland Pilot Study
- Participants: 7 started, 6 completed: 4 women, 2 men, ethnically diverse
- Self-regulation skills: these are also called mind-body skills
  - Meditation (relaxation response and mindfulness meditation)
  - Biofeedback with handheld thermisters
  - Guided body scan
  - Progressive muscle relaxation
  - Autogenic training (self-hypnosis)
  - Yoga Nidra (deep relaxation), yoga breathing, hatha yoga poses
  - Tai chi & Qigong
  - Journal work (personal journal for self-awareness)

Prior Intervention: Pilot Study of the effects of Mind-Body Skills Training in Type 2 Diabetes
Joslin Center/University of Maryland

Class/Group Format/Facilitation
- 2 Leaders: RD, CDE & Wellness Educator
- Class time: 1.5 hr. sessions + one 3 hr. mini-retreat class
- Class materials: 2 audiotapes (guided imagery & mindfulness), biofeedback forms to log pre post hand temperatures. Recommended use of a companion journal

Measures
- Labs: at weeks 1, 10, 22
  - Hemoglobin A1C, urine fractionated catecholamines (epinephrine, norepi, & dopamine), cortisol via 24 hr. urine collection.
  - Pre/Post each class salivary cortisol
- Pen and Paper Measures: at weeks 1, 10, 22
  - BDI – Beck Depression Inventory
  - PAID: Problem Areas in Diabetes
  - Holmes and Rahe – Self rating of stressful life events
  - Diabetes Self-Care Activities Measure
  - SF-36 Health Status Questionnaire
Measures - continued

• Blood Pressure
  – Pre/Post each class blood pressures (average of 2)

What did we find?

<table>
<thead>
<tr>
<th>Measure</th>
<th>Week 1</th>
<th>Week 10</th>
<th>Week 22</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1c (n=6)</td>
<td>7.7%</td>
<td>7.9%</td>
<td>7.5%</td>
<td>No significant reductions except for 2/6 individuals</td>
</tr>
<tr>
<td>Urinary cortisol (n=5)</td>
<td>94 ug/day</td>
<td>10 ug/day</td>
<td>66 ug/day</td>
<td>Wk 1-10 (p=0.06) Wk 1-22 (p=0.19) in 4/5 subjects</td>
</tr>
<tr>
<td>Stress hormones (n=5)</td>
<td></td>
<td></td>
<td></td>
<td>Wk 1-10 (variable per sub, no net change)</td>
</tr>
<tr>
<td>Epinephrine, Nor epi, total</td>
<td></td>
<td></td>
<td></td>
<td>Wk 1-22 all had lower dopamine, nor epi and total catechol. (p=0.06)</td>
</tr>
<tr>
<td>catecholamines, Dopamine)</td>
<td></td>
<td></td>
<td></td>
<td>Wk 1-22 all lower or same epinephrine (p=0.31)</td>
</tr>
</tbody>
</table>

Results During Class

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>P = 0.003*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salivary cortisol</td>
<td>Comparison before &amp; after class</td>
<td>-0.09</td>
</tr>
<tr>
<td>Heart Rate</td>
<td>Comparison before &amp; after class</td>
<td>HR dropped an avg. of 6.4 beats/minute from pre to post session</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>Comparison before &amp; after class</td>
<td>BP dropped an avg. of 3.7 mmHg diastolic; 2.4 mmHg systolic</td>
</tr>
</tbody>
</table>

*Clinically & statistically significant

Quality of Life: Pen & Paper Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Wk 1</th>
<th>Wk 10</th>
<th>Wk 22</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI - Beck Depression inventory</td>
<td>8.4</td>
<td>1.8</td>
<td>1.8</td>
<td>Wk 1-10 (p&lt;0.06) Wk 1-22 (p&lt;0.06)</td>
</tr>
<tr>
<td>PAID 2</td>
<td>62.0</td>
<td>47.8</td>
<td>45.8</td>
<td>Wk 1-10 (p=0.13) Wk 1-22 (p&lt;0.09)</td>
</tr>
<tr>
<td>Holmes &amp; Rahe life stress</td>
<td>181.2</td>
<td>185.2</td>
<td>157.4</td>
<td>No consistent changes in life event scores during the study</td>
</tr>
<tr>
<td>Diabetes Self Care</td>
<td>273.5</td>
<td>273.1</td>
<td>268.1</td>
<td>Wk 1-10 (p=0.84) Wk 1-22 (p=0.81)</td>
</tr>
<tr>
<td>SF 36</td>
<td>70.8</td>
<td>80.4</td>
<td>77.3</td>
<td>Wk 1-10 improvements (p=0.38) Wk 1-22 improvements (p=0.09)</td>
</tr>
</tbody>
</table>
Conclusions

“The favorable short-term physiological changes and quality of life improvements seen in these subjects suggest that mind-body skills training may offer individuals with diabetes additional self-management tools for decreasing cardiovascular risk factors and managing stress or depression.”

Appreciation for Joslin/U MD Team

- Janine Denis Cook, PhD
- Tom Donner, MD
- Deborah Young-Hyman PhD
- Jane Kaufman-Marinelli MS, LMT
- Toni Pollin, PhD
- (Cynthia Payne Moore, MS, RD, CDE)

Phase I: Plan to do a pilot
Offer Class to UVa Employees
(7 Weeks Toward Wellness)
planned a March 2016 start

UVA Group Coaching + Mind-Body Skills Training Group
“7 Weeks Toward Wellness”

- Facilitators/Coach Instructors: 2
- Group/Class Size: 10 people or fewer
- Class Sessions: 7 group classes,
  - new mind-body skill each week, review prior skills
  - review one aspect of Diabetes Self-Care 7
- Individual Sessions: 2 individual meetings/person with a health coach, scheduled 1st and last week of group classes

Current Research & Lessons Learned
University of Virginia

Phase I: lessons learned

- Challenges
  - Inadequate time for marketing & communication (3-5 versions of flyers, dropped price, deeper discounts)
  - Anticipated more support from employers & potential funders
  - Out of pocket client cost proved challenging
- Life & research lessons!
  - Reframing/opportunity to “notice what is”
  - **CAN be a route to reach people who have been out of care
  - Opportunity to gain research partners
Phase II: submitted grant to DCE/Academy of Nutrition & Dietetics

Phase II: lessons learned

- Challenges
  - Unknown timeline on grant approval, therefore unknown funds available for research

- Lessons
  - Delays can help clarify study components & outcomes
  - Research training, CITI – ethics, etc.
  - Grant writing & IRB proposals
  - Alternatives to “ideal” outcome measures

Phase III: Return to original clinical pilot study

Phase III: lessons learned

Preparation is golden!

- Lessons
  1. Small can be best for first group.
  2. 2 pen and paper tests is plenty. Have a plan/cutoff for significant depression scores.
  3. Blood pressure & heart rate can be used as in-session biofeedback.

Challenges: 7 Weeks Toward Wellness

- Assessing best duration of group: 7-12 wks
  - Is there time for them to learn, practice & see benefits?
  - Cost & time commitment for longer groups
- Initial health/skill/knowledge level of group:
  - Best if similar. Can set requirements for preliminary DMSMT
- It's a lot to include-DM Self-care with Group Health Coaching & Mind-Body skills practice

Resources

Coaching & Mind-Body Skills Training
Training Resources

- Mind Body
  - Self-Regulation
  - Mindfulness
    - Center for Mind-Body Medicine
    - Integral Yoga
    - Mindfulness Based Stress Reduction (MBSR)

- Health Coaching
  - Wellcoach Training
  - Duke Integrative Health Coach Training
  - Arizona Integrative Health Coaching