Interactions and Outcomes of Co-Morbid Diabetes and Depression

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Today’s Moderators

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Slides for today’s webinar will be available on the CIHS website:

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Use the chat box to communicate with other attendees

Use the question box to send a question directly to Dr. Parks.
Disclaimer: The views, opinions, and content expressed in this presentation do not necessarily reflect the views, opinions, or policies of the Center for Mental Health Services (CMHS), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Health Resources and Services Administration (HRSA), or the U.S. Department of Health and Human Services (HHS).
Setting the Stage

Dr. Joe Parks
National Council Behavioral Health Medical Director
IC Learning Objectives

- Screening and treatment of depression and diabetes
- Impact of comorbid depression and diabetes on treatment outcomes for both
- Development of screening protocols, treatment pathways, and disease registry to improve co-management of diabetes and depression
- Use of data to improve clinical workflows and outcomes - Population Health Management
- Develop work plan to achieve 2-3 goals related to one or more areas of sustainability:
  - Staff core competencies
  - Quality metrics/Key Performance Indicator Development/Analysis
  - Billing/Cost Analysis
Overview of Today’s Webinar

- Discuss the biopsychosocial relationship between diabetes and mental health
- Discuss the evidence of the co-morbidity condition of depression in diabetes
- Discuss the impact of depression on diabetes chronic care
Challenging Cycle of Diabetes

Biopsychosocial interaction is at the heart of complications between diabetes and depression (Winkley, 2008)
Successful Cycle of Diabetes

Biopsychosocial interaction is at the heart of complications between diabetes and depression (Winkley, 2008)
The Nature of the Relationship

- Most currently a bi-directional association has been documented (Golden et al., 2008; Pan et al., 2010)

- Posited relationship between traumatic experiences as child, leading to lower self-esteem, leading to comfort eating and poor health lifestyles (Winkley, 2008)
Adverse Bidirectional Interaction

Major Depression
- Smoking
- Sedentary lifestyle
- Obesity
- Lack of adherence to medical regimens
- Psychophysiologic
  - ↓ Insulin sensitivity
  - ↑ Autonomic NS
  - ↑ Inflammatory markers

• Medical illness at earlier age
• Poor symptom control
• ↑ functional impairment
• ↑ complications of medical illness
• ↑ mortality

Katon et al. Biol Psychiatry 2003
Depression: Prevalence Rates & Demographic Trends

National Depression rates for Adults
- 6.7% of American adult population overall (Kessler, Chiu, Demler, & Walters, 2005)
- 8.0% of non-Hispanic blacks
- 6.3% of Mexican Americans
- 4.8% of non-Hispanic whites
- 13.1% of Americans below poverty level
Depression: Prevalence Rates & Demographic Trends

National Diabetes rates for Adults (CDC Fact Sheet)
• 11.3% of Americans age 20 or older
• 26.9% of Americans age 65 or older
• 35% of overall adults diagnosed with pre-diabetes in 2005-2008
• 10.2% of all non-Hispanic whites aged 20 years or older
• 18.7% of all non-Hispanic blacks aged 20 years or older
• 8.4% of Asian Americans (2009, IHS NPIRS)
• 14.2% of American Indians/Alaska Natives who received care from IHS were diagnosed diabetic (2009, HIS NPIRS)
Depression: Prevalence Rates & Demographic Trends

National Depression rates for Adults with Diabetes (Li, Ford, Strine, & Mokdad, 2008)

- 9.5% for non-Hispanic white (MDD)
- 5.6% for non-Hispanic blacks (MDD)
- 5.4% of Hispanics (MDD)
- 1.1% of Asians (MDD)
- 27.8% of American Indians/Alaska Natives (MDD)
Depression and Diabetes...

- Depression is two times more prevalent in people with any type of diabetes as it is with people without diabetes (Anderson, Freedland, Clouse, & Lustman, 2001)

- Type 1 = twice as likely to have depression as people without diabetes (Gendelman et al., 2009)

- Type II = Depression occurs in 27% of individuals, more so in women than in men (28% vs. 18%) (Anderson et al., 2001)

- Even one diabetic complication in Type I diabetics increases scores on the Beck Depression Inventory - II (Gendelman et al., 2009)
% Smoking by Depression Level

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type, HbA1c and clinic

Katon et al. Diabetes Care 2004
% BMI > 30 kg/m² by Depression

N = 4,225

p < 0.001; Major > None
p < 0.01; Minor > None

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type, HbA1c and clinic

Katon et al. Diabetes Care 2004
HbA$_{1c}$ > 8% by Depression Level

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type and clinic

Katon et al., Diabetes Care 2004

N = 4,225

p<0.001; Major > None
p<0.01; Minor > None
None
Minor
Major
Depression Group

HbA$_{1c}$ > 8% (%)
Meta-Analysis of the Effect of Depression on Patient Adherence

Compared to nondepressed patients, the odds are 3 times greater that depressed patients would be nonadherent with medical treatment recommendations.

DiMatteo MR et al. *Arch Intern Med* 2000
Medication Adherence in Patients with Diabetes

Lin et al. *Diabetes Care* 2004

Nonadherent Days (%) for different medications:
- **Oral Hypoglycemic**
  - Non Depressed: 18.8
  - Depressed: 24.5
- **Lipid Lowering Meds**
  - Non Depressed: 19.3
  - Depressed: 27.2
- **ACE Inhibitors**
  - Non Depressed: 21.6
  - Depressed: 27.9
Diabetes and Depression

Physical Complications

- Type I pts. are more likely to have coronary artery calcification (Gendelman et al., 2009)
- Associated with neuropathy (deGroot et al., 2001: Lustman, Griffith, Freedland, & Clouse, 1997)
- Associated with retinopathy (Roy et al.; deGroot et al.)
- Associated with increased mortality (Zhang et al., 2005)
# Depression: Association with Complications and Mortality

<table>
<thead>
<tr>
<th></th>
<th>Minor Depression</th>
<th>Major Depression</th>
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<tbody>
<tr>
<td><strong>Microvascular</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complications</td>
<td>1.05 (0.83, 1.33)</td>
<td>1.33 (1.08, 1.65)</td>
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<tr>
<td><strong>Macrovascular</strong></td>
<td></td>
<td></td>
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<tr>
<td>Complications</td>
<td>1.32 (0.99, 1.75)</td>
<td>1.38 (1.08, 1.78)</td>
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<tr>
<td><strong>Mortality (All cause)</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1.23 (0.94, 1.61)</td>
<td>1.53 (1.19, 1.96)</td>
</tr>
<tr>
<td><strong>Foot Ulcers</strong></td>
<td></td>
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<tr>
<td></td>
<td>1.50 (0.82, 2.60)</td>
<td>2.30 (1.50, 3.70)</td>
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# Health Care Costs in Primary Care Patients with Diabetes

<table>
<thead>
<tr>
<th>Cost category</th>
<th>High Depression/ Low Depression</th>
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<tbody>
<tr>
<td>Total</td>
<td>+88%</td>
</tr>
<tr>
<td>Ambulatory</td>
<td>+73%</td>
</tr>
<tr>
<td>Primary care</td>
<td>+51%</td>
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</tbody>
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Adjusted for age, gender, medical comorbidity, diabetes severity, and diabetes knowledge, *p<.05

Ciechanowski et al., 2000
Diabetes and Depression

Self-management Complications

- Depression associated with lower levels of diabetes self-care (Miranda et al., 2001; Van Tilburg, 2001).
- Increased chance of non-compliance, for example missed medical appointments, lapses in maintaining prescriptions (Ciechanowski, Katon, & Russo, 2000; Katon et al., 2009; Lin et al., 2004).

Other Impacts of Dual Diagnosis

- > 50% of patients with both diagnoses and at least three diabetes complications were unemployed (VonKorff et al., 2005)
- Decreased quality of life ratings (Goldney, Phillips, Fisher, & Wilson, 2004)
- Significantly increased medical costs for pts. with diabetes and depression vs. diabetes alone (Simon et al., 2005)
Key Concepts for Diabetes Self Management

- Diabetes is “for the rest of your life.”
- It affects all aspects of every day life.
- Healthy behaviors are the central to successful management of diabetes.
- **Self management enhances emotional health, and healthy coping enhances self management.**
Negative Emotions

**Clinical**
- Mood Disorders
  - Major depression
  - Dysthymia
  - Bipolar
- Anxiety disorders
  - Panic disorder
  - Phobia
  - Trauma-related
- Substance abuse

**Subclinical**
- Anger
- Fear
- Frustration
- Anxiety
- Stress
- Guilt
- Worry
- Irritability
Negative Emotion in Health

Disease and/or death more likely among:

- Anxious
- Angry and hostile
- Depressed
- Stressed
- Socially isolated
Causes of Distress/Negative Emotions

**General Life Events**
- Family
- Jobs
- Relationships
- Finances
- Caregiving
- Other health issues

**Diabetes-related Events**
- Challenging and complex regimen
- Changes in lifestyle
- Fear of complications or future
- Denial and anger about having diabetes
- Feeling deprived of foods
- Aversion to needles
- Anxiety about changes in blood sugar
- Fear of becoming insulin dependent
- Feeling unsupported by
  - family/friends
- Provider/health insurance issues
- Challenging peer and social situations
From Negative Emotion to Healthy Coping

**For Clinical**
- Medications
- Psychotherapy
- Combination therapy

**For Subclinical**
- Training in self-management
- Stress management
- Coping skills
- Assertive communications
- Social support
Skills for Relationship and Emotional Management

- Problem solving skills
- Communication skills
  - Relationship skills
  - Assertive skills or “self representation”
  - Social skills
- Stress management
  - Relaxation, meditation, yoga, etc.
- Cognitive skills for combating stressful interpretations of events
- Productive engagement
Programmatic Approaches

• Healthy coping as routine part of diabetes education and self management classes
• Medication through primary care
• Opportunity to discuss negative emotions routine part of regular care – with PCP, RN, CHW, etc.
• Support groups – diabetes is “for the rest of your life”
• Counseling for negative emotions and to improve healthy coping
• Tools for individuals to use on their own in improving coping skills
• Promotoras/CHWs provide support and are trained to encourage problem solving, teach stress management skills, and refer those in need of specialized care
• Referral care – psychotherapy, medication
Self Management Classes and Healthy Coping

- **Shared emphasis on problem solving**
  - Identify specific goal
  - Set action plan
  - Follow up, review and revise, support

- **Shared skills**
  - Relaxation, also yoga, mind-body approaches
  - Cognitive re-evaluation (e.g., not making mountains out of mole hills)
  - Self-representation/assertion
  - Relationship enhancement

- **Support from group, leader, Promotoras**
Approaches to Depression

1. Using an improved delivery system design
2. Integrating mental health services
3. Utilizing a mind-body focus
Improved Delivery System Design

- Identification and referral of depressed patients to PCPs
- Ensure that PCPs have access to enhanced mental health support
- Example-Providence-St. Peter:
  - MAs screen all diabetic patients with PHQ9
  - Decisions re: Rx left to patient-provider encounter
  - Onsite psychiatrist available for consultation to PCPs
Integration of Mental Health Services

- On-site mental health services
- Direct, often same-day referral from PCP to counselor
- Psychosocial interventions:
  - Individual counseling sessions
  - Group therapy sessions
- Enhanced communication between PCPs and counselors by including mental health notes in primary care chart.
- Both medical and psychosocial interventions provided
Examples of ways to integrate mental health services

- **Screening**
  - Staff screen with PHQ-9, refer to psychologist
  - Nutritionist or PCP screens and refers

- **Treatments Provided**
  - Solution-focused Brief Therapy and Group Therapy
  - Group therapy for depression and diabetes focused on coping strategies, adherence to anti-depressants, group sharing, mind-body health

- **Coordination**
  - Psychologist and counselor chart in medical records along with PCP
Mind-Body Focus

- Interrelationship between physical and psychological symptoms
- Relaxation training
- Yoga classes
- Discussions about the relationships of physical and psychological symptoms
- Emphasis on physical, mental, emotional and spiritual
Recap:

- Emotions, self management, diabetes and health are closely inter-related
- Skills for healthy coping include:
  - Problem solving and goal setting
  - Social skills
  - Cognitive skills for avoiding “blowing things out of proportion”
  - Stress management skills like relaxation, meditation, or yoga
Learning Sessions

June 15, 2 – 3 p.m. ET
Presenter: Katie Stuckmeyer
Metabolic/Diabetic Screening and Strategies to Improve Treatment Adherance

July 28, 2 – 3 p.m. ET
Presenter: Jeff Capobianco, Ph.D., LLP
Strategies to Maintain Gains, Support Momentum, and Sustain Adoption of the Innovation
Learn how Innovations Community participants are:

- Progressing toward goals
- Sustaining momentum, improving interventions, and garnering positive gains
- Establishing best practice models across the organization
Next Steps:

Continue to:

- work on your plan’s action steps with your team,
- send your workplan to your coach,
- meet with your coach on a regular basis, and
- provide status updates.
Resources

Healthy Coping in Diabetes: A Guide for Program Development and Implementation

Treating Diabetes and Depression

Program design and key performance indicators
Questions?
Thank you for joining us today. Please take a moment to provide your feedback by completing the survey at the end of today’s webinar.

If you have additional questions/comments, please send them to:
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