PSYCHOLOGICAL CHALLENGES OF DIABETICS

Does Depression Correlate to Diabetic Foot Ulcer Outcomes?

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Disclosure

• No relevant financial or non-financial relationships to disclose
Diabetes Statistics

• 29.1 million diabetics
  – 21 million diagnosed
  – 8.1 million undiagnosed

• By 2030, DM Type 2 will be 7th leading cause of death worldwide

• Estimated annual cost of care = $245 billion
  – $176 billion → direct medical costs
  – $69 billion → productivity lost

Maydick, et al., 2016
Diabetic Foot Ulcer Statistics

• 15 to 25% of diabetics will develop a DFU
  – Only two-thirds heal within 6 months
  – Approx. 60% have a recurrence in 1 year
• 5 year mortality following amputation → 39 to 80%

Pearson, et al., 2014
Depression Overview

Statistics
- Affects 15 million adults
- 4\textsuperscript{th} leading cause of disability worldwide
  - 2\textsuperscript{nd} by 2020 (Kessler, et al., 2013)

Diagnosis
- Gold standard
  - Structured patient interview
  - Diagnosis that conforms to Diagnostic and Statistical Manual of Psychiatric Disorders, 5\textsuperscript{th} edition (DSM-V)
- Assessment via self-administered questionnaires
Patient Health Questionnaire (PHQ-9)

• Sample questions
  − Little interest or pleasure doing things?
  − Feeling tired or having little energy?
  − Trouble concentrating?
• Excellent correlation to structured interview

<table>
<thead>
<tr>
<th>Score</th>
<th>Depression Severity</th>
<th>Proposed Treatment Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>None, Minimal</td>
<td>None</td>
</tr>
<tr>
<td>5-9</td>
<td>Mild</td>
<td>Watching waiting, repeat PHQ-9</td>
</tr>
<tr>
<td>10-14</td>
<td>Moderate</td>
<td>Treatment plan, consider counseling, follow-up and/or pharmacotherapy</td>
</tr>
<tr>
<td>15-19</td>
<td>Moderately severe</td>
<td>Active treatment with pharmacotherapy and/or psychotherapy</td>
</tr>
<tr>
<td>20-27</td>
<td>Severe</td>
<td>Immediate initiation of pharmacotherapy, expedited referral to mental health specialist for psychotherapy and/or collaborative management</td>
</tr>
</tbody>
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Pearson, et al., 2014
Kroenke, et al., 2014
Depression and Diabetes

• Depression 2X more common in DM
  • Prevalence of 11%; up to 32% in patients with DFU
• Depression related to:
  – Poorer glycemic control
  – **Poorer self management behavior**
  – Increased risk of morbidity and mortality
• Clinical depression associated with 2X greater risk of DFU incidence

Fisher, et al., 2007
Williams, et al., 2010
Key Literature

A Cohort Study of People With Diabetes and Their First Foot Ulcer (Ismail, et al., 2007)

Goal
- Examine whether depression was associated with mortality in 253 patients with their first DFU over an 18 month period

Results
- One-third of patients with first DFU were depressed
- Depression not associated with healing, ulcer recurrence or amputation
- Depression → three-fold increased risk of death

Mortality at 5 year follow-up (Winkley, et al., 2012)
- Two-fold increased risk of mortality
Key Literature

The Diabetic Person Beyond a Foot Ulcer: Healing, Recurrence, and Depressive Symptoms (Monami, et al., 2008)

Goal
• Assess the role of depression in healing and recurrence of DFUs in DM Type 2 patients ≥ 60

Results
• Healed ulcers had significantly lower scores on geriatric depression scale (GDS)
• Scores of ≥ 10 had significantly higher risk of not healing at 6 months
• Patients with recurrent ulcerations had significantly higher GDS scores
Key Literature

Depression and Incident Lower Limb Amputations in Veterans with Diabetes (Williams, et al., 2011)

Goal
• Determine the association between diagnosed depression and incident non-traumatic lower limb amputations in veterans with DM

Results
• Depression associated with 33% increased risk of major lower limb amputations in veterans with DM
  – Related to more severe arterial ischemia?
• No increased risk of minor lower limb amputations
Key Literature

Depression Symptoms in People with Diabetes Attending Outpatient Podiatry Clinics for Treatment of Foot Ulcers (Pearson, et al., 2014)

Goals
• Determine effect of depression on DM self-management, health related quality of life (HRQoL), and ulcer status

Results
• Depression prevalence of 51.7%
  − Maintenance pharmacotherapy not effective in treating symptoms
• Association with poorer DM self-management and HRQoL
• **No association between depression and ulcer outcomes at 6 month follow-up**
Depression or Distress

• Most diabetic patients with high levels of depressive symptoms are not clinically depressed (Fisher, et al., 2010)

Diabetic Emotional Distress

• Unique and separate from depression
• Caused by burden of disease and its management
• Can affect up to 50% of patients in an 18 month period
• Associated with less self-active care
Diabetic Emotional Distress

Problem Areas in Diabetes Questionnaire (PAID)

• Are you having trouble accepting your diabetes?
• Do you feel overwhelmed or burned out by the demands of diabetes management?
• Do you get the support you need from your family for diabetes management?
• Do you worry about diabetic complications?

Polonsky, et al., 2005
Diabetic Emotional Distress

Models of Behavior Change (Peyrot, et al., 2007)

- **Motivators**
  - Perceived benefits, expectations, rewards

- **Inhibitors/facilitators**
  - Barriers to or lack of resources for action

- **Intentions**
  - Internal desire to change

- **Triggers**
  - Predisposed action → action state
Depression and Distress Screening

Controversy
• Feasibility, cost-effectiveness, who performs assessment

Reimbursement
• CPT Code 96127
  – May be used to report brief behavioral or emotional assessments for reimbursement
  – Includes standardized screening instruments providing both scoring and further documentation to the healthcare provider
  – Not limited to mental health specialists
The Podiatrist's Role

• Podiatrists care for diabetics across the continuum of care
  – More sensitive to subtle changes in mental health
• Recognize symptoms of psychological distress and depression
  – Make the proper mental health referral
  – Engage other collaborative care specialties
  – Help mitigate known risk factors
  – Aid in overcoming counterproductive behaviors
Conclusion

• More research is needed relating DFU outcomes and depression
• Diabetic distress is a separate entity and can have a significant role in DFU outcomes
• Utilizing behavior change models can be pivotal for success
• The podiatric physician should recognize mental health issues in order to promote better DM related outcomes
References


QUESTIONS?