DIABETES, DEPRESSION AND DEMENTIA
A Clinician’s Guide To Detection, Intervention and Prevention

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ABOUT ME
- Physician Assistant in Psychiatry at Nebraska Medicine
- Assistant Professor in the UNMC PA Program
- Unique Approach To Patient Care
- Type 1 Diabetes Since Age 7

DISCLOSURES
- Formerly on the Allergan Speaker Bureau for Vraylar and Vilburyd
- Nothing else to disclose

BRIEF OVERVIEW
- General Facts About Diabetes, Depression And Dementia
- The Connection Between The Three D’s
- Detection of Diabetes, Depression and Dementia in Different Populations
- Your Role In Prevention and Intervention
- Integrative Medicine
- Being Advocates For Our Patients
- Resources
- Questions
**TYPE 1 DIABETES AND DEPRESSION**

**GENERAL FACTS**

- Higher rates of depression in children/adolescents with diabetes than general population [1]
- Highest rates first year after diagnosis and adolescents [1,2]
- Depression impacts adherence [3]
- Associated with worse glycemic control and complications [4,5]

**TYPE 2 DIABETES AND DEPRESSION**

**GENERAL FACTS**

- Much of the same
- Depression leads to a substantial increase in risk of Type 2 Diabetes [6]
- Type 2 Diabetes increases risk for Depression [7]
- Depression impacts adherence [3]
- Associated with worse glycemic control and complications [4,5]

**DSM-5 DIAGNOSTIC CRITERIA FOR MDD** [8]

- Depressed mood or anhedonia with 4 or more symptoms most of the day, nearly every day, during a 2 week period:
  - Significant weight loss (when not dieting) or weight gain, or a marked increase or decrease in appetite nearly every day
  - Excessive sleepiness or insomnia
  - Agitation and restlessness
  - Fatigue
  - Feelings of worthlessness or excessive inappropriate guilt nearly every day
  - Diminished ability to think, concentrate or make decisions
  - Recurrent thoughts of death or suicide

**DIABETES RELATED DISTRESS VS DEPRESSION**

- These two terms are not equal and important to know the differences.
- Diabetes Related Distress is far more prevalent than Depression [7]
- DRD responds very well to Diabetes self-management education and support (DSME/S) and improves glycemic control [7]
- DSME/S can also help reduce rates of depression in Diabetes [7]
- However, clinical depression and severe DRD need referral for specialist care (Psych).
DEMENTIA

- Classified as a “syndrome” in which there is deterioration in memory, thinking, behavior and the ability to perform everyday activities [9]
- NOT A NORMAL PART OF AGING [9]
- Encompasses many different types of conditions, but Alzheimer’s is most prevalent [9]
- “Dementia is one of the major causes of disability and dependency among older people worldwide” [9]
- “Dementia has a physical, psychological, social, and economical impact, not only on people with dementia, but also on their careers, families and society at large” [9]

DEMENTIA AND DIABETES

- Diabetes infers higher risk of vascular complications and the brain is no different [10]
- Many potential mechanisms for why Diabetes increases risk for Dementia, but still unclear [10]
- Homogeneity among cardiovascular problems seems most likely [10]
- Glucose not used properly in brains of people who suffer from AD [10]
- In Vascular Dementia brain cells die due to lack of oxygen [10]
DEMENTIA AND DEPRESSION

- Prodromal Symptom or Independent Risk Factor? [14]
- Biologically plausible that depression increases risk of dementia [14]
- Are Antidepressants protective? [26]

DIABETES, DEPRESSION AND DEMENTIA

- Summarize the correlative and possible causal links between these three conditions
- Intimate connections and possible means for intervention?

DETECTION OF DIABETES

- RISK FACTORS — Identifying risk factors for diabetes may help to target specific patient groups for screening. Risk factors for diabetes include the following
  - Age ≥45 years
  - Overweight (body mass index (BMI) ≥25 kg/m²): the risk with increased weight is also a continuum, with significantly increased risk for obese individuals (eg, BMI ≥30 kg/m²)
  - Diabetes mellitus in a first-degree relative
  - Sedentary lifestyle
  - High-risk ethnic or racial group (eg, African American, Hispanic, Native American, Asian American, and Pacific Islanders)
  - History of gestational diabetes mellitus
  - Hypertension (blood pressure ≥140/90 mmHg)
  - Dyslipidemia (serum high-density lipoprotein cholesterol concentration ≤35 mg/dL [0.9 mmol/L] and/or serum triglyceride concentration ≥250 mg/dL [2.8 mmol/L])
  - A1C ≥5.7 percent, impaired glucose tolerance (IGT) or impaired fasting glucose (IFG)
  - Polycystic ovary syndrome
  - History of vascular disease

DIABETES

- Polyuria
- Polydipsia
- Polyphagia

DETECTION OF DIABETES
DETECTION OF DEPRESSION

Utilize Screening Tools

DSM-5 Diagnostic Criteria

Remember SIGECAPS

DETECTION OF DEPRESSION

DSM-5 DIAGNOSTIC CRITERIA FOR MDD

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DETECTION OF DEMENTIA

Classified as a “syndrome” in which there is deterioration in memory, thinking, behavior and the ability to perform everyday activities

USE SCREENING TOOLS
- Folstein MMSE
- MOCA
DETECTION OF DEMENTIA

**Interpretation of the MMSE**

<table>
<thead>
<tr>
<th>Method</th>
<th>Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Cutoff</td>
<td>&lt;24</td>
<td>Abnormal</td>
</tr>
<tr>
<td>Range</td>
<td>&lt;25</td>
<td>Increased odds of dementia</td>
</tr>
<tr>
<td></td>
<td>&lt;25</td>
<td>Decreased odds of dementia</td>
</tr>
<tr>
<td>Education</td>
<td>21</td>
<td>Abnormal for 4th grade education</td>
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<tr>
<td></td>
<td>&lt;23</td>
<td>Abnormal for high school education</td>
</tr>
<tr>
<td></td>
<td>&lt;24</td>
<td>Abnormal for college education</td>
</tr>
<tr>
<td>Severity</td>
<td>24-30</td>
<td>No cognitive impairment</td>
</tr>
<tr>
<td></td>
<td>10-23</td>
<td>Mild cognitive impairment</td>
</tr>
<tr>
<td></td>
<td>0-17</td>
<td>Severe cognitive impairment</td>
</tr>
</tbody>
</table>

*What Does the Montreal Cognitive Assessment Evaluate?*

The MoCA assesses cognitive abilities, including:

- Attention
- Language abilities
- Visuospatial skills
- Memory
- Executive functions
- Orientation
- Immediate recall
- Delayed recall
- Immediate copy
- Delayed copy
- Abstraction
- Cancellation
- Reversal
DIABETES, DEPRESSION AND DEMENTIA

- Feel comfortable “detecting” diabetes, depression and dementia
- Utilize screening tools for detection
- Interpretation of scores from screening tools
- Know your resources and when to refer

INTERVENTION IN DIABETES

- CDSME/S to improve glycemic control
- Education is not enough
- Encourage Exercise and Dietary Changes
- Empathy and Support
- Bariatric surgery?

INTERVENTION IN DEPRESSION

- Refer, Refer, Refer
- Anti-depressants
- Psychotherapy
- Other Modalities?

INTERVENTION IN DEMENTIA

- Empathy and Support
- Early intervention and treatment of depression and anxiety can help to manage symptoms, improve quality of life, and reduce risk for complications.
- Lifestyle interventions, including exercise and dietary changes, can also be effective in managing symptoms of dementia.
- Medications, such as cholinesterase inhibitors and memantine, can help to improve cognitive function and reduce behavioral and psychological symptoms of dementia.
- Referral to a specialty clinic or a multidisciplinary team can provide comprehensive care and support for patients and caregivers.
DIABETES, DEPRESSION AND DEMENTIA

- Putting It All Together
- What Can you do?
- Feasibility of Interventions in clinical practice
- Barriers to Intervention

PREVENTION OF DIABETES

- Promote Wellness
- Physical Activity
- Best Prevention is Early Intervention?
- Education again, is it enough?

PREVENTION OF DEPRESSION

- Recognizing risk factors
- Diabetes Burnout vs. Depression
- Don’t forget about the value of psychotherapy
- Treat if needed
- Screening

PREVENTION OF DEMENTIA

- Risk factors
  - People with diabetes and their family members may experience anxiety and depression, which can lead to problems in daily living.
  - Early intervention is essential, but it should be tailored to the person’s needs.
- Management approaches
  - Medications
  - Exercise
  - Cognitive training
  - Social support
  - Nutrition
  - Psychological interventions can help improve cognitive function, but they should be tailored to the person’s needs.
- Barriers and challenges
  - Cognitive impairment may affect communication and decision-making.
  - Family members may find it difficult to manage the person’s care.
  - Stigma and discrimination can prevent people from seeking help.
DIABETES, DEPRESSION AND DEMENTIA

- Significant heterogeneity amongst detection, intervention and prevention
- Putting it all together

INTEGRATIVE MEDICINE

- Stay within the scope of your practice, but.....
- IF YOU HAVE THE KNOWLEDGE USE IT!
- Know your resources
- Every interaction with a patient is an opportunity

ADVOCATING FOR YOUR PATIENTS

- Communication, Communication, Communication
- Identify where you may be lacking and work to improve
- Adhere to appropriate boundaries, but be empathetic
- Not one size fits all
- Help to coordinate care if possible
QUESTIONS

REFERENCES


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