How to Effectively Approach AADE7 Self-Care Behaviors with Low-Income Patients to Improve Diabetes Self-Management

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Session Objectives

- Describe social predictors of health that may affect diabetes self-management in low-income individuals
- Discuss practical strategies for addressing AADE7 Self-Care Behaviors in 1-on-1 and group diabetes education settings

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Session Objectives (cont.)

- Discuss models for partnerships between community-based organizations and healthcare organizations to support the health of low-income patients
- Share strategies for screening patients for food insecurity in the clinical setting
Nation’s leading domestic hunger-relief organization

VISION
A Hunger-Free America

MISSION
To feed America’s hungry through a nationwide network of member food banks and engage our country in the fight to end hunger.

The Feeding America Network

200 Member Food Banks

46M Americans

60K Pantries

A Hunger-Free America

Social Determinants of Health

Diabetes is Increasingly a Disease of the Poor

Impact of Poverty on Diabetes Risk and Management

• Food access, food security
• Housing, built environment, physical activity
• Health care access, medication / supplies
• Transportation, safety
• Education & employment
• Mental health & stress
Food Insecurity as a Framework

Poverty & Poverty Reduction
- Food Security
- Community & Economic Development
- Health & Wellbeing
- Education & Skills Development
- Housing
- Social Services
- Housing
- Community & Economic Development
- Health & Wellbeing
- Education & Skills Development
- Poverty & Poverty Reduction

Food Insecurity & Diabetes Prevalence (2013)

- Individuals who are food insecure have:
  - Increased risk of diabetes
  - Additional challenges for diabetes management
  - Lower diabetes self-efficacy
  - Higher rates of diabetes distress
  - More frequent ER visits for hypoglycemia

Risk Factors for Food Insecurity, Obesity and Diabetes

People at risk for food insecurity are also often at the highest risk for obesity and diet-related disease

Common Risk Factors:
- Low income & poverty
- Poor education
- Martial status
- Race/ethnicity
- Cycles of food deprivation/overconsumption
- Limited access/affordability
- Low cost of energy dense food

Diabetes Rates

Food Insecure Adults with Diabetes Have Higher Average Blood Sugars

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Diabetes Rates

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Coping Strategies to Avoid Hunger

- Eating low-cost foods
  - Fewer F&V
  - More fats/carbs
- Eating highly filling foods
- Small variety of foods
- Avoiding food waste
- Binging when food is available

- Higher risk of obesity & diabetes
- Once you have obesity or diabetes, poorer ability to manage it effectively

Health Status

47% of clients responded they are in fair or poor health
In 29% of households all members have no health insurance*
55% of households report some medical debt

Making Tough Choices

Feeding America’s clients report that their household income is inadequate to cover their basic household expenses.

66% have had to choose between medicine and food
67% have had to choose between transportation and food
68% have had to choose between utilities and food
57% have had to choose between housing and food

Food Insecurity and Diabetes

Feeding America Diabetes Initiative (2011 – 2014)

1. POC HbA1c testing to screen pantry clients for DM and monitor glycemic control for those with DM
2. Diabetes-appropriate food boxes (1-2 times per month)
3. DSME & SMS
4. Referral to primary care
Results: Participants (n=687)

<table>
<thead>
<tr>
<th>Age, mean</th>
<th>56.6 (12.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female, %</td>
<td>41</td>
</tr>
<tr>
<td>Race/ethnicity, %</td>
<td>Lat/Latino/Hispanic</td>
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<tr>
<td>White</td>
<td>25</td>
</tr>
<tr>
<td>Black</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
<tr>
<td>Spanish, %</td>
<td>28</td>
</tr>
<tr>
<td>Education ≥ HS degree/GED, %</td>
<td>41</td>
</tr>
<tr>
<td>Food security, %</td>
<td>Very low</td>
</tr>
<tr>
<td>Low</td>
<td>24</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
</tr>
<tr>
<td>Food Secure</td>
<td>16</td>
</tr>
<tr>
<td>BMI, mean</td>
<td>34.3</td>
</tr>
<tr>
<td>Tobacco use, %</td>
<td>19</td>
</tr>
</tbody>
</table>

Improved Hba1c and Intermediate Outcomes at 6 Months

<table>
<thead>
<tr>
<th>Continuous Outcomes</th>
<th>Sample (n)</th>
<th>Unadjusted mean change (Hba1c ≥ 7.5% at baseline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hba1c (%)</td>
<td>411</td>
<td>9.52 to 9.04 ****</td>
</tr>
<tr>
<td>Fruit &amp; vegetable intake (servings / day)</td>
<td>392</td>
<td>2.8 to 3.0 **</td>
</tr>
<tr>
<td>Self-efficacy (scored 1-10)</td>
<td>382</td>
<td>6.7 to 7.2 ****</td>
</tr>
<tr>
<td>Diabetes distress (scored 1-6)</td>
<td>380</td>
<td>3.3 to 2.8 ****</td>
</tr>
<tr>
<td>Medication non-adherence (scored 0-4)</td>
<td>367</td>
<td>1.2 to 1.1 *</td>
</tr>
</tbody>
</table>

Lessons Learned

- Reached a diverse / vulnerable group of low-income pantry clients
- Significant improvements in diabetes self-management
- Food banks uniquely positioned to offer support because of their ability to provide food
- Required adaptation of “traditional” DSME strategies and messages tailored for low-income populations

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Challenges and Choices

- Food
- Chemical Dependency
- Access to Medical Care
- Lack of employment
- Treated different
- Depression

Mental Models Of:

<table>
<thead>
<tr>
<th>Poverty</th>
<th>Middle Class</th>
<th>Wealth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships</td>
<td>Achievement</td>
<td>Connections</td>
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</table>

Which Came First

- A loss of 13 IQ points
- Losing an entire night’s sleep
- Being a chronic alcoholic

Where is the next meal coming from?

- Living in the now
- Survival Mode

Research was conducted by Mani and colleagues Sendhil Mullainathan at Harvard University, Eldar Shafir at Princeton University, and Jiaying Zhao at the University of British Columbia.
Standard Motivator May Not Work

“The prospect of being able to live a long healthy life with out complications is a powerful motivator for patients to take an active role in their diabetes care.”

Eating Healthy - Reality

- On SNAP
- Food deserts
- Often share food with other family members
- Food runs out at the end of the month
- Buying inexpensive unhealthy food
- Skip meals or water down drinks to stretch
- They consider healthy food to be expensive
- Often not willing to purchase (new to them) foods

Eating Healthy - Strategies for Addressing

- Providing healthy food support or referring to resources
- Attractive, colorful, low literacy educational materials
- Keep it simple
- Teach common low cost healthy foods, and cost neutral concepts
  a. Beans, canned or frozen vegetables
  b. Seasonal produce
  c. Reducing serving sizes

Diabetes Healthy Food Box

- Whole grains
- Low sugar & low sodium
- Healthy proteins
- ~ 20 pounds

Diabetes Self-Management Education

Passive Education

- Packets
- Video

Diosk
Being Active – Reality

• Less likely to exercise
• Energy is used just to survive
• Neighborhood not conducive to outside activities
• They live in the present, not goal oriented
• More likely to choose pleasurable activities

Being Active - Strategies for Addressing

• Needs to be:
  • Doable
  • Low-cost
  • Fun
  • Convenient
  • Safe

Being Active - Strategies for Addressing

• Identify free exercise offering in community
  • Community & Senior Centers
  • Churches
  • Handouts on chair exercise
  • Discuss exercise while watching TV or during commercial breaks

Monitoring - Reality

• Less likely to Monitor Blood Glucose
• Never taught proper technique
• Often share with other friends and family members
• May lose meters frequently
• Numbers meaningless to them
• Poor problem solving skills

Monitoring - Strategies for Addressing

• Assessment of blood glucose technique
• Educate on how, when and why to test
• Educate on blood glucose and A1c goals
• Educate on making the numbers meaningful

Taking Medication - Reality

Do not stick to drug regimens
• Access
• Basic understanding of med
• Safety
• Affordability
Concerns
• Disordered eating
**Taking Medications - Strategies for Addressing**

- Safety
  - Disordered eating
  - Need “no food plan”
  - Sulfonylureas and Insulin may need to be changed
  - Educate on potential hypoglycemia

**Problem Solving, Reducing Risks & Healthy Coping - Reality**

- Use less preventive health care
- Are often late and less likely to keep appointments
- Live in stress
- More likely to smoke
- Psychological and social problems take precedence

**Patient Case Study**

- **Family of Four**
  - Husband: works 40 hours per week at $8.50/hour, take home pay ≈ $1,100.00/month, has diabetes, prescribed metformin
  - Wife: unemployed, takes care of mother-in-law
  - Mother-in-Law: Disabled, homebound, receives $300.00/month disability, has diabetes, prescribed rapid-acting & long-acting insulin
  - Daughter: high school student, active in sports

**Problem Solving, Reducing Risks & Healthy Coping - Strategies for Addressing**

- Access & Affordability
  - Using meds on low cost formulary
  - Using pharmaceutical patient assistance programs
  - Educate on how their medication works

**Mental Models Of:**

- **Poverty**
- **Middle Class**
- **Wealth**

- **Relationships**
- **Achievement**
- **Connections**
Monthly Bills
- Rent: $650.00
- Utilities: $275.00
- Gas: $90.00
- Car Liability Payment: $40.00
- Prescriptions: $120.00
- Phone Service: $80.00
- Clothing, shoes, sports gear, miscellaneous: $60.00
- Eating out 4x per month: $45.00

Food Pantry Box
- 1 loaf white bread
- 2 cans diced tomatoes
- 2 cans beans
- 2 cans vegetables
- 1 jar peanut butter
- 5 lb. bag potatoes
- 1 box mac ‘n cheese
- 1 box cereal
- 1 box crackers
- 2 liter juice
- 1 lb. ground beef
- Dozen eggs
- Watermelon

Questions:
As patient:
1. Are you stressed yet?
2. What are your priorities?
3. What bills are your least priorities that you would not pay because you cannot afford it?
4. What foods would you purchase to supplement pantry foods for the month?

Questions:
As educator:
1. How would you begin to build a relationship?
2. What needs would you address first?
3. What referrals would you make knowing the situation?

Opportunities for Collaboration

Partnering with Food Banks & CBOs
- Set common goals
- Build collaborations sustainably
- Implement FI screening tools & utilize FI resources
- Clinical opportunities:
  - Refer clinic patients to food bank programs
  - Connect clinic volunteers & staff to conduct health screening activities in the food bank setting
  - Offer food distributions at the clinic
Healthy Food Bank Hub

• Public microsite of FeedingAmerica.org
• Built for/by nutrition, hunger, and health professionals
• http://healthyfoodbankhub.feedingamerica.org/

Food Insecurity Exists EVERYWHERE

• Feeding America's Map the Meal Gap
• Annual study that estimates FI at the county level
• http://map.feedingamerica.org/

Food Insecurity Screening

• 2 question screener
• Valid for families with young children
• Based on USDA FI screen

2 FI Screening Questions

• “Within the last 12 months we worried whether our food would run out before we got money to buy more.”
  – Was that often, sometimes, or never true for (you/your household) in the last 12 months?
• “Within the last 12 months the food that we bought just didn’t last and we didn’t have money to get more.”
  – Was that often, sometimes, or never true for (you/your household) in the last 12 months?

Implement FI Screening

• Train staff
• Start small – QI project?
• Document and discuss during patient visit
• Clinical assessments and referrals
• Provide resources (food bank info)

Questions?

• Thank you!