Dietary Behaviors, Perceptions, and Barriers for Patients At-Risk for Type 2 Diabetes Mellitus at the Frank Bryant Health Center

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Introduction

- 14% of San Antonio’s population is diabetic
- Ethnicity plays a role: Hispanics and African-Americans are 2x more likely to develop Type 2 Diabetes Mellitus (T2DM) than Caucasians
- What other factors contribute to the development of T2DM?
- **Diet** and Physical Activity
Background

• Lack of **Availability** of healthy foods in low-income neighborhoods
• High **Cost** of healthy foods
• Unhealthy **Social Environment**
  • unhealthy dietary behavior of friends and family members
  • household taste preferences
• Difficulty in food **Preparation**
  • lack of time
  • lack of skill
Methodology

• Survey instrument
  • Free response
  • Yes or No questions
  • Likert scale questions

• Timeline
  • Week 1: background research and survey creation
  • Weeks 2 & 3: survey collection
  • Weeks 4 through 6: data analysis and completion of paper

• Surveys collected: 44

• Population
  • Adult patients at the primary care clinics at the Frank Bryant Health Center
  • Stratified into at-risk for T2DM and non at-risk for T2DM
  • At-risk: history of gestational diabetes or family history of diabetes
Results

Demographics
- 36% men, 64% women
- average age: 45
- 47% Hispanic, 41% African-American, 7% Caucasian, 5% Asian
- 58% obese, 26% overweight, 14% normal, 2% underweight

Diabetes History
- 75% at-risk for T2DM, 25% non at-risk for T2DM

% Patients Who Received Diabetes Education

<table>
<thead>
<tr>
<th>Percent</th>
<th>Total</th>
<th>At-Risk</th>
<th>Non At-Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>43</td>
<td>45</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Please rate your understanding of diabetes.</th>
<th>At-Risk (n = 32)</th>
<th>Non At-Risk (n = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>28%</td>
<td>50%</td>
</tr>
<tr>
<td>Fair</td>
<td>63%</td>
<td>30%</td>
</tr>
<tr>
<td>Poor</td>
<td>9%</td>
<td>20%</td>
</tr>
</tbody>
</table>
## Results, continued

<table>
<thead>
<tr>
<th>External Barriers Statement</th>
<th>At-Risk “Yes” Responses</th>
<th>Non At-Risk “Yes” Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2: There are enough healthy food options where I live.</td>
<td>88%</td>
<td>100%</td>
</tr>
<tr>
<td>3: Healthy food is too expensive.</td>
<td>58%</td>
<td>18%</td>
</tr>
<tr>
<td>4: Healthy food is hard to prepare.</td>
<td>27%</td>
<td>0%</td>
</tr>
<tr>
<td>5: My family and friends usually eat healthy food.</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>8: I have a support system to help me eat healthier.</td>
<td>58%</td>
<td>55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values Questions</th>
<th>At-Risk Majority responses</th>
<th>Non At-Risk Majority responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>9: How important is it for me to eat healthy? (1=not, 5=very)</td>
<td>5 (91%)</td>
<td>5 (73%)</td>
</tr>
<tr>
<td>10: How important is it for me to eat on a budget? (1=not, 5=very)</td>
<td>5 (58%)</td>
<td>4 (55%)</td>
</tr>
</tbody>
</table>
### Results, continued

<table>
<thead>
<tr>
<th>Self-Perception Statements</th>
<th>At-Risk “Yes” Responses</th>
<th>Non At-Risk “Yes” Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: I believe that I eat healthy.</td>
<td>58%</td>
<td>73%</td>
</tr>
<tr>
<td>6: I am afraid my current diet will increase my risk for diabetes.</td>
<td>45%</td>
<td>36%</td>
</tr>
<tr>
<td>7: I am actively trying to eat healthier.</td>
<td>88%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Of those who said they ate healthy:
- 56% did not include fresh fruit as part of their typical daily diet
- 22% did not include at least one full serving of vegetables as part of their typical daily diet
Discussion

• Significant portion of CommuniCare patients are overweight or obese, yet only 54-68% have a weight goal
• At-risk group not receiving adequate diabetes education from primary care provider
• Greatest external barriers for at-risk group:
  • high cost of healthy food
  • difficulty in healthy food preparation
• Greatest (unseen) external barrier for both groups:
  • social environment: unhealthy dietary behaviors and preferences in friends and family members
• Patient health literacy seems lacking, especially because many patients who believe they eat healthy are lacking in daily fruit and vegetable intake
Recommendations

• Emphasis on weight loss: set a specific weight loss goal for overweight/obese patients
• Proper nutrition education, especially for patients at-risk for T2DM
• Involve friends and family members in changing their eating habits as well
  • Train youth to eat fruits and vegetables
• Partner with Texas Diabetes Institute to provide more cooking classes that teach culturally-relevant and inexpensive food preparation
• Partner with local diabetes prevention programs to create more widespread attention to, and practice of, healthier lifestyle choices
Conclusion

• Focus on improving patient health literacy
• Barriers exist: cost is possibly the greatest
• Promote healthy lifestyle behavior in a broader context: involve schools, workplaces, churches, etc.
• Directions for Future Research:
  • Which factor is the greatest barrier to healthy eating?
  • Patients potentially live in a food desert, but do not have the health literacy to understand this
    → Ask about external barriers in a different way
  • Internal barriers: cultural and taste preference considerations, current eating habits, personality types