Effects of a community based collaborative diabetes prevention and control program for low income obese patients

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NOVANT HEALTH
Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory 2017

*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.
Objective

Evaluate the health effects of a program offered by the Winston Salem, NC YWCA, for low income, overweight and obese patients with diabetes or pre-diabetes.

Description of Collaborative Program

Enrollment: Clinician referral to the YWCA program September 2016 through January 2018

Eligibility criteria

• Hemoglobin A1c (HbA1c) ≥ 5.7
• Body Mass Index (BMI) ≥ 25
• English speaking
• Medicaid insurance or income under 200% of the Federal Poverty level
Key Features of Collaborative Program
Measures of success

Change at 9 months in

- Mean BMI
- Hemoglobin A1c
- Health Risk Assessment (HRA) Scored 0-100
- Percentages of participants who lowered their BMI and HbA1c
## Participant characteristics at enrollment

<table>
<thead>
<tr>
<th>N=39</th>
<th>Participant (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age: mean</td>
<td>59.5 (46-78)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>AA</td>
<td>36</td>
</tr>
<tr>
<td>White and other</td>
<td>3</td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>19</td>
</tr>
<tr>
<td>Medicare</td>
<td>14</td>
</tr>
<tr>
<td>None</td>
<td>10</td>
</tr>
<tr>
<td>Private</td>
<td>6</td>
</tr>
<tr>
<td>Graduated high-school</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>29</td>
</tr>
<tr>
<td>BMI: mean</td>
<td>41.2 (27.3-75)</td>
</tr>
<tr>
<td>Hemoglobin A 1 c: mean</td>
<td>7.8 (5.7-13.4)</td>
</tr>
<tr>
<td>HRA: mean</td>
<td>56 (39-75)</td>
</tr>
</tbody>
</table>
Outcomes at 9 months

- **A1c**
  - Baseline: 7.8 mmol/mol
  - 9 month follow-up: 6.7 mmol/mol
  - Improvement of 1.1 mmol/mol
  - *p* < 0.01

- **BMI**
  - Baseline: 40.4 kg/m²
  - 9 month follow-up: 39.5 kg/m²
  - Improvement of 0.9 kg/m²
  - *p* = 0.007

- **HRA**
  - Baseline: 53.6 kg
  - 9 month follow-up: 58.7 kg
  - Improvement of 5.1 kg
  - *p* < 0.01
Participants’ outcomes in percentages

- **Hemoglobin A1c**
  - Improved: 82%
  - Unchanged: 15%
  - Worsened: 3%

- **BMI**
  - Improved: 69%
  - Unchanged: 26%
  - Worsened: 5%

- **HRA**
  - Improved: 54%
  - Unchanged: 36%
  - Worsened: 5%
Key Lessons for Dissemination

Our findings suggest that achieving blood glucose and weight reduction in a real world setting partnering with the community, parallel those achieved in the research settings.
Components of the HRA ("personal wellness profile")

- Personal health history
- Medical care
- Physical activity
- Eating practices
- Substance use
- Mental/social health
- Safety
- Job satisfaction
- Readiness to change
- Health interests