Empowering Rural African American Women and Communities to Improve Diabetes Outcomes

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with Peggy Gatlin
on behalf of our EMPOWER Team
Our thanks to Bristol-Myers Squibb for Making this Project a Possibility
### The EMPOWER! Team:

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- **Community Health Workers**
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  - Shirley Taylor

- **Community Navigators**
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  - Juanita Royal-Burgess
  - Fannie Parker

- **Community Supporters**
  - Bernstein Clinic
  - ECU Family Medicine
  - OIC Edgecombe County
  - St. Peter’s Missionary Baptist
  - The Uplift Academy
Diabetes in Our Communities

- 25.8 million people have diabetes in the US
- 4.8% of Caucasians have diabetes, while 8.2% of African Americans have diabetes
- 11.8% of African American women over 20 have diabetes
- Rates are expected to TRIPLE by 2050
- Over half of all diabetes cases are uncontrolled
- These rates are worse for rural Eastern North Carolina…

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Disparity in Eastern North Carolina

- The prevalence, morbidity, and mortality from diabetes is 30% higher in eastern NC with approximately 2.5 fold higher rates in African Americans
Treatment

Lifestyle Modification

- Dietary Changes
- Physical Activity
- Medication Adherence
- Smoking Cessation

BUT....
- 60-80% of patients do not follow diet and exercise recs
- 25-50% do not adhere to medications
- Low Goal Ownership Predicts Dropout in Diabetes Programs
- Most studies done in Caucasian Women
- Black women show smaller weight losses and health benefits

A call for new weight management approaches
The Small Changes Approach

- Combining elements of traditional behavioral therapy and non-dieting treatment approaches

- Goals are:
  - Small, manageable, and self-selected
  - One at a time – more is not better
  - Relative to baseline – NO GOLD STANDARDS

- Focus on behaviors and outcomes will come

- Can be utilized in different cultural settings
Example of a Small Change

2 Cokes a day, 155 calories x 2 = 310

Your Small Change to decrease to 1 coke per day

155 calories saved per day

1085 calories saved per week

56420 calories saved per year

/3500 calories (1 pound)

-16 Pounds in 1 year!
Moderation

Short Term outcomes:
- Mild Caloric Restriction,
- Moderate Increase in Exercise,
- Moderate Decrease in Weight,
- Decreased weight preoccupation

Low Risk for Relapse

Long Term Outcomes:
- Continued Weight Loss,
- Improved Diabetes control
- Maintained Exercise,
- New Decision Making

Higher Goal Achievement

Higher Self-efficacy

Less Deprivation

More Satisfaction
The Interventionist: CHW

- Community Health Workers (CHW’s) involved with diabetic patients - patients had improved knowledge and lifestyle and self-management behaviors and decreases in ER visits (Norris, Chowdhury, Van le K et al, 2006)
- However, most programs use CHW’s in urban settings
- Few studies were RCT
- Even fewer studies use CHW as the sole interventionist
- Small changes has never been delivered by peers (CHW’s)
The EMPOWER! Study

- AA women have higher rates of obesity, diabetes, and early mortality compared to other women
- Have greater difficulty in getting access to interventions where they live
- Goals of the study:
  - Would AA women want to participate in a phone-based treatment program?
  - Would they lose weight/improve diabetes using this approach?
  - Could CHW’s provide effective treatment?
Study Design

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N=200 AA women with Diabetes

N=100
CHW Small Changes

16 phone-based intervention

6 month assessment

12-month assessment

N = 100
ADA Mailing Group

16 ADA mailings

6 month assessment

12-month assessment
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Outcome Measures

- Biological Outcomes
  Measured at baseline, 6, and 12 months
- Process Outcomes
- Self-Report Outcomes
- Community Outcomes
Hiring our CHW’s

- We contacted local stakeholders and asked them to determine potential “champions” for their community
- Took out job advertisements through ECU looking to hire 3 community health workers and 3 navigators (one of each for each county)
- PI’s interviewed all interested candidates
Community Health Workers

- Complete 40 in-person hours of training
- Attend weekly phone-based supervision meetings
- Help to organize recruitment and assessment sessions in their home communities

<table>
<thead>
<tr>
<th>Ambassadors</th>
<th>Navigators</th>
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<tbody>
<tr>
<td>Schedule and deliver phone treatment</td>
<td>Provide orientation and materials to ADA group</td>
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<tr>
<td>Complete and submit session check ins</td>
<td>Gather community resources for intervention group</td>
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CHW’s and Navigators
All CHWs and Navigators received 40 hours of initial training, including:

- Education about diabetes, health, weight management, and lifestyle change
- Relationship and trust building
- Education regarding psychosocial screening, counseling, and the need for a randomized study design
- Coaching strategies employing a small changes approach to disease management
- Motivational Interviewing and Problem-solving therapy
- Extensive role plays on participant intervention sessions
- Extensive practice on completing the program assessments (consent, height & Weight (for BMI), completion of psychosocial measures, and
Intervention Group

- CHW’s to deliver 16 sessions
  - Session 1 in person:
    - 1 week of baseline monitoring
    - Physical activity monitoring using a pedometer
    - Nutrition monitoring using a modified stoplight system
    - Glucose and weight monitoring using scales and glucose monitor

- Patients identify one small change in nutrition, physical activity, and monitoring they could make
### Participants

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<tr>
<th>Parameter</th>
<th>(N = 202) AA females</th>
<th>Mean</th>
<th>±SD</th>
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<tbody>
<tr>
<td>AGE (yrs)</td>
<td></td>
<td>53</td>
<td>11</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td></td>
<td>37.7</td>
<td>8.2</td>
</tr>
<tr>
<td>HbA1c (%)</td>
<td></td>
<td>9.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Mean BP (mmHg)</td>
<td></td>
<td>134.5/84.2</td>
<td>20.4/11.7</td>
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<tr>
<td>Mean # visits in last yr.</td>
<td></td>
<td>5.3</td>
<td>4.2</td>
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<tr>
<td>Time Diagnosed (yrs)</td>
<td></td>
<td>10.9</td>
<td>8.4</td>
</tr>
<tr>
<td>% on Insulin</td>
<td></td>
<td>61%</td>
<td></td>
</tr>
<tr>
<td>% ≤ HS Ed</td>
<td></td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>% ≤ $30,000/yr income</td>
<td></td>
<td>79%</td>
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Patient Examples

Patient #1: Gloria – a straightforward case
• Baseline Weight = 228 pounds
• Baseline BMI = 42.4
• Baseline BP = 112/87
• Baseline HbA1c = 8.6%

Treatment
• Completed 11 of the 16 scheduled sessions

After Small Changes treatment with Peggy
• 12-month Weight = 207 pounds
  • 12-month BMI = 38.7
  • 12-month BP = 107/70
  • 12-month HbA1c = 6.9%
Patient Examples

Patient #2: Clara – A complex case
- Baseline Weight = 220 pounds
- Baseline BMI = 34.5
- Baseline BP = 148/87
- Baseline HbA1c = 7.7

After Small Changes treatment with Peggy
- 12-month Weight = 162 pounds
- 12-month BMI = 25.4
- 12-month BP = 105/64
- 12-month HbA1c = 7.3* came off several diabetes medications

Treatment
- Completed 13 of the 16 scheduled sessions
Sustainability Plan

- Hba1c machines to be left in local counties to do free testing for patients
- 6 trained CHW and navigators in their home communities who will remain as a resource
- Working with local and state government about CHW for pay services:
  - This has been approved under the new affordable care act
  - CHW will need to complete additional training
- New projects incorporating CHW’s into integrated care
Moving Forward

- New Grant (from BMSF) to expand our work to treat patients with diabetes who have co-morbid distress or depression
- Delivered in primary care
- A stepped care approach
- Integrated care team approach, including: pharmacist, a psychologist, care manager, and a CHW to deliver services