Empowering Rural African American Women and Communities to Improve Diabetes Outcomes

Lesley D. Lutes, Ph.D.
East Carolina University
with Peggy Gatlin
on behalf of our EMPOWER Team

The EMPOWER! Trial
Our thanks to Bristol-Myers Squibb for Making this Project a Possibility
The EMPOWER! Team:

- **Principle Investigators:**
  - Doyle Cummings, Pharm D
  - Kerry Littlewood, PhD
  - Lesley Lutes, PhD

- **Project Coordinators:**
  - Bert Hambidge, MD
  - Deana Gilbert, BA

- **Project Graduate Assistants:**
  - Emily DiNatale, MA
  - Chelsey Solar, MA

- **Project Undergraduate RAs:**
  - Latoya Vines
  - Sarah Williamston
  - Sharon Brooks

- **Community Health Workers:**
  - Peggy Gatlin
  - Johnnie Mae Jordan
  - Shirley Taylor

- **Community Navigators:**
  - Eunice Roberson
  - 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...
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
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 this type of program?
  - Could CHW’s provide effective treatment?
  - Could they lose weight and improve their Diabetes?
Study Design

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
EMPOWER! Outcome Measures

- Biological Outcomes: Measured at baseline, 6, and 12 months
- Self-Report Outcomes
- Process 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>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule and deliver phone treatment</td>
<td>Provide orientation and materials to ADA group</td>
</tr>
<tr>
<td>Complete and submit session check ins</td>
<td>Gather community resources for intervention group</td>
</tr>
</tbody>
</table>
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 interviews
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

(N = 202) AA females

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

Treatment
• Completed 13 of the 16 scheduled sessions

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
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