Peer Support for Adults with Diabetes in Rural Uganda: Champions and Partners

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My purpose today

Describe the feasibility of a peer support pilot intervention for adults with type 2 diabetes
Diabetes in Uganda

- 4% estimated prevalence in adults
- Late diagnosis
- In Africa, 60-80% with diabetes are not diagnosed
- Few clinicians know how to manage diabetes
- No screening programs for early detection
Cultural Beliefs

- Ideal body image -- ‘big is beautiful’
- Exercise
  - Not ladylike
  - Challenging in tropical climates
  - Can be life threatening in some environments
- Stigma of disease
  - Unmarriageable, unemployable
  - A reason for divorce
- Traditional medicine is first treatment
Ugandan Diet

- Fertile land
- Subsistence farming
- Primarily CHO with small amounts of protein
- Staple food is matooke and posho
- Frying a common, economical method of cooking
Goals of the Intervention

- To enhance social support & emotional well-being
- Engage participants in diabetes self-care behaviors
- Improve metabolic control (A1C)
- Foster linkages to healthcare providers
Measures

- Diabetes self-management and assessment tool (D-SMART)
- AADE - 7
  - Healthy eating
  - Monitoring BG
  - Problem solving
  - Being active
  - Taking medication
  - Reducing risks
  - Healthy coping
- Perceptions of social support
Measures - 2

- Height & weight
- Blood pressure
- A1C (venipuncture)
- MTN phone network call logs
- Clinician notes of contact by participants
- Participant logs
- Post-intervention evaluation meeting
Peer Champion/Partner Intervention

- **Champions**
  - Fluent in English
  - Received diabetes self-care education plus training in communication and support

- **Partners**
  - Received diabetes self-care education

- **Partners—Champions and Partners were matched (age, gender) to interact at least weekly by phone or in person**
Peer education
Peer Champion Training

• Diabetes self-care AADE-7
• Communication skills to provide support
  ◦ Asking open-ended questions
  ◦ Active listening
  ◦ Providing optimism and hope
  ◦ Keeping on track
  ◦ Encouraging goal setting for changing behaviors step by step
Peer Champion Training in Communication Skills

- Ask open-ended questions
- Be an active listener
- Provide optimism and hope
- Encourage goal setting for changing behaviors step by step
- Share feelings and goals
  “Tell me about a worry you have in taking care of your diabetes.”
- Support healthy behavior changes
  “People can change habits at any age.”
Purpose of Peer Contacts

- Problem solve about daily tasks of diabetes self-care
- Provide social and emotional support in self-care
- Encourage partners to contact the diabetes clinic team about medical management issues
Purposes of feasibility testing

- Can we recruit and retain subjects?
- Can we engage participants?
- Are resources adequate?
- Is the intervention effective?
- Can we establish an effect size?
- What unanticipated procedural/design problems arose?
- What did we learn?

Can we recruit & retain subjects?

- **Goal: recruit 30 champions and 30 peers**
  - Had to have type 2 diabetes; attend Mityana clinic
  - Champions had to be fluent in English

- **Pre-intervention**
  - 19 champions
  - 27 peers

- **Post-intervention 4 months later**
  - 16 champions (84% retention)
  - 25 peers (93% retention)
Participants

- Average age 55 years (32 - 74)
- Diagnosed with diabetes average of 6.4 years
- 67% female
- 54% family history of diabetes
- 57% primary level education*
- 44% farming occupation

*p < .001 difference between champions (16%) partners (85%)
Can we engage participants?

- 100% reported making peer contact
  - most often weekly
  - most contacts by phone using pre-paid airtime
- 71% contacted the clinic
- 90% reported contact increased
Were resources adequate?

- Worked with a trained diabetes care team: 2 nurses, medical officer, lab tech
- 20% monitored BG at home
  - mostly weekly or monthly
- 71% reported difficulty accessing meds
- Physical space at the district hospital was inadequate
Was the intervention effective? In changing...

- Social support & emotional well-being
- Diabetes self-care behaviors
- Linkages to care
- Metabolic control
## Social support & emotional well-being

<table>
<thead>
<tr>
<th></th>
<th>Max Score</th>
<th>Means</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping(5)</td>
<td>4</td>
<td>2.6</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Barriers(14)</td>
<td>4</td>
<td>2.0</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Confidence*</td>
<td>4</td>
<td>3.5</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Helpfulness of Social Support*</td>
<td>4</td>
<td>3.4</td>
<td>3.0</td>
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*p < .05
## Self-care Behaviors

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Max Score</th>
<th>Pre</th>
<th>Post</th>
</tr>
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<tbody>
<tr>
<td>Healthy Eating(5)*</td>
<td>5</td>
<td>2.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Being Active</td>
<td>5</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Missed Meds</td>
<td>5</td>
<td>1.9</td>
<td>1.6</td>
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*p < .001
Linkages to clinical care

- Qualitative data
  - Perceptions of improved care
  - Easy access with telephone

- Telephone log data
  - 71% of participants called the clinic nurse
    - 69% were champions
    - 72% were partners
### Physiological Measures (N=41)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre %</th>
<th>Post %</th>
</tr>
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<tbody>
<tr>
<td>Blood pressure $&gt;130/80$*</td>
<td>80</td>
<td>56</td>
</tr>
<tr>
<td>BMI overweight or obese</td>
<td>61</td>
<td>56</td>
</tr>
<tr>
<td>Mean A1C (DCCT units)*</td>
<td>11.2</td>
<td>8.3</td>
</tr>
<tr>
<td><em>(goal &lt; 7%)</em></td>
<td></td>
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*p < .001 DBP, A1C
Can we establish an effect size?  
**Power and sample size**

<table>
<thead>
<tr>
<th>Effect Size</th>
<th>Cohen's d</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>.2-.5</td>
<td>189</td>
</tr>
<tr>
<td>Medium</td>
<td>.5-.8</td>
<td>34</td>
</tr>
<tr>
<td>Large</td>
<td>&gt;.8</td>
<td>15</td>
</tr>
</tbody>
</table>
Estimates of effect size in Uganda

ES = mean difference/SD

- Healthy eating: 2.50
- A1C: 0.71
- Coping scale: 0.12
- Taking meds: 0.18
- Confidence: 0.40
What was most helpful about the peer program?

- Encouraged to contact the clinic (71%)
- Patients perceived improved care
- Received helpful advice
- Received encouragement
- Learned a lot about diabetes
- Could talk to someone about diabetes
- Liked written information about diabetes
What difficulties were encountered?

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>Did not talk often enough</td>
<td>56</td>
</tr>
<tr>
<td>Could not contact my partner</td>
<td>44</td>
</tr>
<tr>
<td>My partner told me what to do</td>
<td>31</td>
</tr>
<tr>
<td>My partner was not motivated to make any changes</td>
<td>25</td>
</tr>
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What was not anticipated?

- Lower ratings of confidence in managing diabetes
- No change in coping
- Slight increased perception of barriers to diabetes self-care
What did we learn?

- Peer support was reciprocal, e.g. both provided and received support

- A cell phone network is available technology that needs to become part of the healthcare system to enhance management of chronic disease
What did we learn? -2

- Cultural issues
  - Without phones geographic proximity more important than matching with the same gender
- Level of poverty
  - Required paying for transportation; providing reading glasses
- Language
  - Preferred Luganda for written and oral education
“Leave something concrete behind”
Building a porch addition for education and waiting area.