Linking microcredit, technology, and breastfeeding promotion in Bauchi State, Nigeria

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Infant feeding behaviors in Nigeria

- 7% of Nigerian infants 4-5 months are exclusively breastfed (EBF)
- Water is commonly given during the first days of life and throughout breastfeeding
- Complementary foods are introduced early – 20% at 0-1 months of age
- Rates of EBF & early breastfeeding initiation are lowest in NE

Reference: Nigeria Demographic and Health Survey 2008
Microcredit program as a platform

• 5-6 women join together and guarantee each others’ loans
• 4-6 of these small groups meet with their credit officer monthly to:
  – repay their loans
  – learn business development techniques
• **Bauchi State**
  – Bauchi, Ganjuwa, and Dass local government areas (LGAs)

• **Implemented by**
  Partners for Development with 4 local microcredit organizations
  – Rahama, Gerewa, Wurno Kowanaka, and WODASS
Intervention components

- 7 monthly BF learning sessions during microcredit meetings
- 2x/week cell phone voice and text messages to reinforce key BF messages
- 1x/month presentation of song or drama related to cell phone messages
Overview of study design

- Cluster-randomized controlled intervention trial
- Baseline survey - during pregnancy
- Final survey - when infants >6 months
- Data on implementation process
- Quality of intervention survey
- Qualitative data about cell phone use and changes in social norms
Objective:
• To test the effect of an integrated microcredit and breastfeeding promotion intervention on exclusive breastfeeding to 6 months

Hypothesis:
• Increase the proportion of women who EBF to 6 months by 15% in the intervention compared to the control group
Main outcome:
• Exclusive breastfeeding to 6 months

Selected secondary outcomes:
• Breastfeeding initiation within one hour of delivery
• Use of non-breastmilk fluids in first three days of life (pre-lacteal feeds)
Eligibility criteria:
• Microcredit clients of 4 local partners
• Pregnant
• 15-45 years

All eligible women invited to participate
Participant Flow

172 monthly meeting groups (2158 clients)

79 meeting groups (484 potentially eligible clients after preliminary screening)

39 meeting groups in control at baseline (232 clients)
39 meeting groups in intervention at follow-up (196 clients)

40 meeting groups in intervention at baseline (229 clients)

93 meeting groups contained no potentially eligible clients

0 meeting groups were excluded. (Reasons for individual ineligibility: 3 were <15 years, 19 not pregnant, 1 refusal)

79 meeting groups (461 eligible clients)

1 meeting group lost (Reasons for individual losses: 18 miscarriages, 10 stillbirths, 5 infant deaths)

38 meeting groups in control at follow-up (194 clients)

39 meeting groups in intervention at follow-up (196 clients)

1 meeting group lost (Reasons for individual losses: 20 miscarriages, 5 stillbirths, 11 infant deaths, 1 maternal death, 1 moved away)
# Background characteristics (n=390)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>25.4 ± 5.7</td>
<td>25.8 ± 5.7</td>
</tr>
<tr>
<td>Mean years of education</td>
<td>6.3 ± 4.8</td>
<td>6.2 ± 4.6</td>
</tr>
<tr>
<td>Mean parity</td>
<td>4.1 ± 2.4</td>
<td>4.5 ± 2.4</td>
</tr>
<tr>
<td>Mean # children &lt; 5 years</td>
<td>1.8 ± 0.6</td>
<td>1.9 ± 0.6</td>
</tr>
<tr>
<td>% married</td>
<td>97</td>
<td>100</td>
</tr>
<tr>
<td>% with co-wives</td>
<td>56</td>
<td>51</td>
</tr>
<tr>
<td>Mean # household items</td>
<td>7.8 ± 2.9</td>
<td>7.4 ± 3.0</td>
</tr>
<tr>
<td>Mean # rooms in household</td>
<td>4.9 ± 2.7</td>
<td>4.7 ± 2.7</td>
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</tbody>
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Feeding intentions at baseline

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Intervention</th>
<th>Control</th>
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</thead>
<tbody>
<tr>
<td>Exclusive BF to 6 mo</td>
<td>42%</td>
<td>40%</td>
</tr>
<tr>
<td>Initiation of BF within 1 hr</td>
<td>OR 1.1 (0.6, 1.8)</td>
<td>OR 0.8 (0.4, 1.5)</td>
</tr>
<tr>
<td>Give fluids in first 3 days</td>
<td>42%</td>
<td>42%</td>
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Feeding behaviors measured post-intervention

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Intervention</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive BF to 6 mo</td>
<td>64%</td>
<td>43%</td>
</tr>
<tr>
<td>Initiated BF within 1 hr of delivery</td>
<td>70%</td>
<td>48%</td>
</tr>
<tr>
<td>Gave non-breastmilk fluids in first 3 days</td>
<td>14%</td>
<td>29%</td>
</tr>
</tbody>
</table>
Client participation

- 69% of intervention clients attended all 7 BF learning sessions
- 96% of cell phones received all text and voice messages
- 85% of small groups presented a song or drama at least once per month
Cell phone use

- 6% of women surveyed were responsible for group phone
- 61% of women live <10 min from person with phone
- 64% said that sharing a phone worked well or very well
Challenges and Limitations

Challenges:
• Many clients had no cell phone
• Security issues

Limitations:
• Assessment schedule allowed us to capture exclusive breastfeeding only at 6 months
• Research design did not allow analysis of independent effect of intervention components
Conclusions and implications

• An integrated microcredit and BF promotion intervention was successful at changing BF practices
• Using a group cell phone was feasible
• Cell phones prompted participants to meet, discuss the messages, and develop songs/dramas
• The scaling up of this type of intervention should be tested in existing microcredit programs in Nigeria
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