mHealth Technologies in India: Explorations in maternal health interventions

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Microsoft Research India

Photo: Natalie Linnell
Technology for Emerging Markets
At Microsoft Research India

Understand existing and potential technology users in developing communities

Design and evaluate technology and systems that contribute to socio-economic development

Collaborate with development organizations, governments, academics & industry

projects
studies
Technologies for Emerging Markets

People

Communications & Sociology

Linguistics

Design

Interdisciplinary Collaboration

Technology

Computer Science & Engineering

Human-Computer Interaction

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Nakull Gupta
Voice Remains Primary Interface for Mobile Subscribers in India
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Interactive Voice Response: $1B Industry
Voice Messages for Healthy Behaviors During Pregnancy

In collaboration with Sion Hospital (Mumbai); to appear at ICTD 2013

- Can automated voice reminders improve the adherence of pregnant women to iron pills?

- Randomized controlled trial across 79 women in Mumbai
  - Treatment group: Hb levels increase (0.32 g/dl)
  - Control group: Hb levels decrease (-0.10 g/dl)

- Evolved into DocTalk: doctor broadcasting system
ASHA-Assist: A Counselling Aid for ASHAs

Interactive mobile videos for maternal health education

Challenges
- Poor training programs
- Limited education/literacy
- Issues in credibility
- Traditional beliefs and barriers

Goals
- Improve Efficacy of ASHA visits
- Encourage better maternal health practices
- Address language barriers

Accredited Social Health Activists (ASHAs) monitor and provide services for pregnant and postnatal women

Research and Reality: Using Mobile Messages to Promote Maternal Health in Rural India.
Measuring Persuasiveness: Dialogic vs. Lecture-based Mobile Video

<table>
<thead>
<tr>
<th></th>
<th>Lecture</th>
<th>Example</th>
<th>Dialogic</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myth</td>
<td>General Statement</td>
<td>Many women believe that &lt;myth&gt;.</td>
<td>Question about personal beliefs</td>
<td>Do you believe that &lt;myth&gt;?</td>
</tr>
<tr>
<td>Correction</td>
<td>Explanation</td>
<td>&lt;myth&gt; is not true; in fact, &lt;correction&gt;.</td>
<td>Explanation with rhetorical question tags</td>
<td>&lt;myth&gt; is not true; in fact, &lt;correction&gt;, did you know that?</td>
</tr>
<tr>
<td>Action</td>
<td>Instruction</td>
<td>You should &lt;action&gt;.</td>
<td>Request for Personal Commitment</td>
<td>Will you &lt;action&gt;?</td>
</tr>
</tbody>
</table>

Common myth: iron tablets will make the baby too big to deliver normally.

Quality of counseling significantly improved with dialogic style of message presentation.

Research and Reality: Using Mobile Messages to Promote Maternal Health in Rural India. 

How does ASHA-Assist compare to and relate with existing interventions?

Standard Intervention:
- Flip Chart

Interactive:
- Dialogic Flip Chart
- Traditional Flip Chart

Mobile Intervention:
- ASHA Assist v.2
- Dialogic Interactive Video
- Traditional Video
How does ASHA-Assist compare to and relate with existing interventions?

4-arm RCT, 12 months

Ganjam District, Orissa

ASHA-Assist v.2
- Topical Training Only
- Use format from flip chart developed for ASHAs in this region
- Interactive, persuasive, dialogue: Script on Flip Chart
- Same script as Dialogic Flip Chart, on mobile phone

Per Arm
- 25 ASHAs
- 75-125 Mothers

Total
- 100 ASHAs
- 300-475 Mothers

Control Group
- Topical Training Only
- Baseline and Exit Interviews for all Participants

Traditional Flip Chart
- Baseline and Exit Interviews for all Participants

Dialogic Flip Chart
- Baseline and Exit Interviews for all Participants

Dialogic ASHA-Assist
- Touchscreen feature phone
- 29 videos
- UX learning

Same content and images for all arms