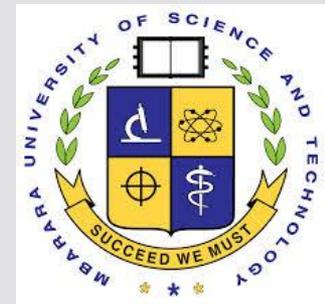


Meanings of SMS Reminders for Adherence Support Among Adults Initiating ART in Rural Southwest Uganda

Norma C. Ware, PhD
Harvard Medical School
Boston, MA, USA



Disclosures

- I receive funding for research from NIMH, USAID, and the Gates Foundation.

SMS Text Messaging As Adherence Support

- SMS text messaging is a promising tool for adherence support in Africa.
- Results from RCTs to date have been mixed.

(Lester, Lancet, 2010; Pop-Eleches, AIDS, 2011; Mbuagbaw, PLoS One, 2013; Shet, BMJ, 2014)

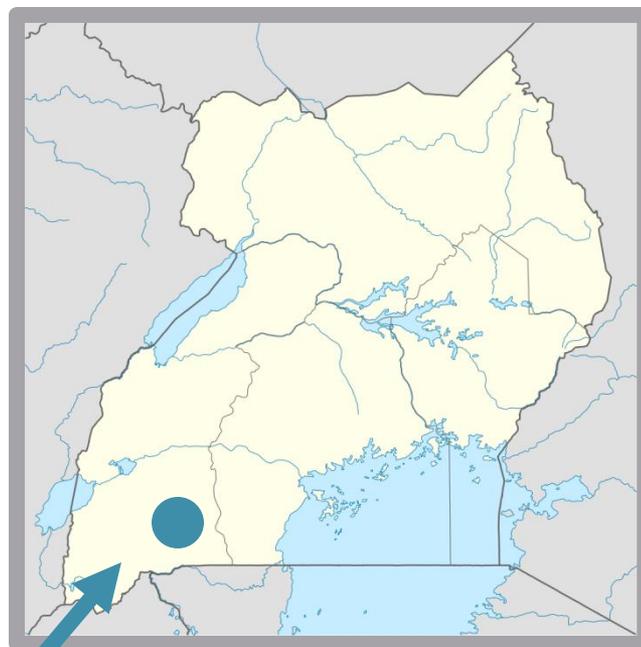
- The *mechanism of effect* – how and why SMSs may promote adherence – has yet to be explained.

Description of the Study

- A pilot randomized controlled trial to develop SMS interventions to improve ART adherence
- Jessica E. Haberer, MD, MS Principal Investigator
- Aim: to assess the impact of SMS reminders and SMS-triggered social support on adherence, as measured through real-time electronic monitoring with Wisepill.
- Using qualitative data from the study, this presentation describes what receiving SMS reminders meant to study participants—working toward formulating a mechanism.

Study Site & Participants

- HIV-specialty clinic in a large teaching hospital, Mbarara, rural southwest Uganda
- Sixty-three HIV-positive adults initiating ART



Mbarara, Uganda

Experimental Study Design with Qualitative Interviewing

--A three-armed trial with 9 mos. of follow-up

Months	Arm A (scheduled SMS + real-time monitoring)	Arm B (triggered SMS + real-time monitoring)	Control (real-time monitoring only)
1	Daily SMS	SMS for missed doses	No SMS
2	Weekly SMS		
3			
4	SMS for missed doses + social supporter notification (48 hr lapse)	SMS for missed doses + social supporter notification (48 hr lapse)	
5			
6			
7			
8			
9			

Message Content

- Individualized, content selected by recipients
- Local language (Runyankole) or English
- Examples:
 - “This is your reminder!”
 - “Have you swallowed your pills?”



Qualitative Data Collection

- **122 open-ended qualitative interviews:**
 - All participants in Arm A and Arm B at Month 3
 - All participants who had a 48-hour lapse in Months 4-9
 - Social supporters of participants with 48-hour lapses

Qualitative Data Collection-2

- Interviews covered:
 - Experiences with the Wisepill real-time monitoring device
 - Experiences of SMS messages
 - Social support received

Personal Characteristics of Study Participants

	Total
Female gender, N(%)	40 (65%)*
Age in years, median (IQR)	25 (30-35)
Education: Primary or greater	57 (92%)
Median (IQR) CD4 cells/mm ³	309(231-397)
Depression (Hopkins)	30 (48%)

* Arm A: 15 (71%), Arm B: 7 (35%), Control: 18 (86%)

SMSs as Dosing Reminders

- **Receiving an SMS message reminds people to take their medication.**

- *R: “There are times when I get caught up doing other things but when I get the message, I am reminded to take the drugs. For example one day, I had worked a lot that day and was very tired so I forgot about taking the drugs but then received a message to remind me. I had been home alone that day so if it were not for the message, I would have missed taking medicines.”*

A Habit of Good Adherence

- **Scheduled daily SMSs at initiation of treatment help develop a habit of good adherence.**

I: “How were the daily messages?”

R: “They made me get used to taking my medicine on time.

So I developed the habit of taking my medicine on time.”

I: “How were the weekly ones different from the daily ones?”

R: “By the time the weekly ones started coming, the daily ones had put me in the habit. [So] when they stopped I didn’t wait for the message, I would keep looking at the time and take my medicine.”

SMSs as Expressions of Personal Caring

- **Participants interpret SMSs as expressions of personal caring by message senders.**

“...I was still at my business working and I received an SMS. I read it and became happy and told myself, “These people remember me. They care about me.””

“The SMS messages are very helpful. They make me know that someone cares about me.”

Feeling Cared About Energizes Adherence

- **Feeling cared about energizes the adherence process.**

--Recipients feel “encouraged” for adherence when they receive an SMS.

“Every time I receive this message I feel encouraged to continue taking my medicine. Knowing that there are people who care about my health. “

Multi-level Meanings of SMS Messages



Conclusions

- As adherence support, SMS messages are more than reminders; they also have positive emotional significance for this group.
- A mechanism explaining how SMSs function for adherence support in Africa should take emotional as well as cognitive meanings into account.

Acknowledgments

- **Research Team**

- Jessica E. Haberer, PI
- Angella Musiimenta
- Monique A. Wyatt
- Melanie Tam
- Emily E. Pisarski
- Esther C. Atukunda
- Moran Owembabazi
Sheila Moonlight
- Judith Namanya
- Justus Ashaba

- **Funding**

- NIMH NIH
R34MH100940.

- **Study Participants**

- Thanks to all who gave their time to participate in the qualitative interviews.