Couples intervention improves adherence to HIV prevention among pregnant women and male partners in Kenya

Abigail M. Hatcher, Lynae Darbes, Zachary Kwena, Pamela L. Musoke, Anna Joy Rogers, George Owino, Anna Helova, Jami L. Anderson, Patrick Oyaro, Elizabeth A. Bukusi, Janet M. Turan
• Effective regimens can reduce MTCT to as low as 1% (1, 2)
• Global call for virtual MTCT elimination (3):
  • 90% reduction in new child HIV infections
  • 50% reduction in HIV-related maternal deaths

Methods

- Longitudinal data from the Jamii Bora Study
- A pilot randomized controlled trial of a home-based couples intervention
- Study was conducted during the period 2014-2017 in Migori County, western Kenya
**Figure 1.** Conceptual framework for home-based couples intervention based on Interdependence Model.
Jamii Bora Intervention

- 3 home-based visits for pregnant women and male partners
- HIV-positive, HIV-negative, and Discordant
- Visits by couple counselors: 1 male & 1 female

Visit content:

- Maternal, child, and family health information
- Couple relationship & communication skills
- Offers of Couple HIV Testing and Counseling (CHTC)
- Linkage to services
Measures

Sociodemographics
- Age
- Gravidity
- Marital status
- Education

Mediators
- Communication
- Couple efficacy to act on HIV

HIV Adherence
- Likert-type measure

Predisposing Factors of Couple
Communal Coping
Couple Efficacy
HIV-related Outcomes
• **127 pregnant women** who were currently in a stable relationship with a male partner, but who had not disclosed their HIV status
  • 63 were randomized to the intervention group (couple home visits)
  • 64 were randomized to the control group (standard care)
  • About half were HIV+ at baseline (by design)

• **96 male partners** of these women (76%) could be located and agreed to participate in the study
  • 52 in the intervention group
  • 44 in the control group
Results

85% Follow-up Retention

n=96

n=82
24 years
26 weeks gestation
32 years

Median number of children: 3

25% Polygynous
55% Can Read Newspaper
22% Have Electricity
n=57 (68%) adherent

n=43 (57%) adherent
For HIV-positive:
- Excellent or Good ART adherence

For HIV-negative:
- Couples testing plus condoms
- Couples testing plus staying faithful

n=57 (68%) adherent

n=43 (57%) adherent
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### Adherent to HIV prevention or treatment

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<td>Model 1&lt;sup&gt;a&lt;/sup&gt; Adjusted OR (95% CI)</td>
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<td>2.91 (1.08 to 7.84)*</td>
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* p<0.05

OR: odds ratio; CI: confidence interval

<sup>a</sup> Adjusts for education and household hunger; <sup>b</sup> Adjusts for education, hunger, and couples mediators (communication and efficacy)
**Figure 1.** Structural equation model of the relationship between intervention, couples moderators, and HIV prevention behaviors ($n = 96$ couples). Relationships represented by standardized parameter estimates, with boxes indicating measured variables and oval representing latent variable. All solid line relationships significant at the $p<0.05$.

F: female; M: male. Goodness of model fit Chi-square = 106.34 (df = 12) $p = 0.365$; CFI = 0.979; RMSEA = 0.047 (90% CI 0.000 - 0.076).
Limitations

- Small sample size in a pilot study; pathways should be tested in more conclusive samples
- Longitudinal nature of study design not fully harnessed in SEM
- Couples-based research may recruit relatively more equitable partners (recent severe violence was screened out at baseline)
A home-based intervention holds promise for improving HIV adherence behaviors among negative, discordant, and positive couples

Possible that shifts in men may be driving HIV behaviors

Next steps: Larger trial of the intervention is currently under review
Acknowledgments

- **Study Participants!**
- **University of Alabama at Birmingham:**
  - Janet Turan (PI)
  - Pamela Musoke
  - Anna Helova
  - Anna Joy Rogers
  - Fatimah Bello
  - Jami Anderson
- **University of Michigan:**
  - Lynae Darbes
- **University of Witwatersrand:**
  - Abigail Hatcher
- **Kenya Ministry of Health:**
  - County Director of Health, Migori County
  - Staff of Macalder Subcounty Hospital, Rongo Subcounty Hospital, Oyani Health Centre, Wath-On’ger Dispensary, Godjope Dispensary
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  - Director of CMR
  - Elizabeth Bukusi (Site PI)
  - Zachary Kwena
  - George Owino
  - Patrick Oyaro
  - Elly Weke
  - Moses Okombo Ayany
  - Julius Odiwuor June
  - Celestine Adhiambo Ngerhe
  - Irene Awuor Jimbo
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