Women Can Protect Themselves from HIV and Violence in Marriage—Findings from the RHANI Wives Study In India

Anita Raj, PhD
Professor of Medicine & Global Public Health
Director of the Center on Gender Equity and Health (GEH)
University of California, San Diego

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HIV among Women in India

39% of the 2.1 million HIV-infected individuals in India are women\(^1\)

Women’s HIV Risks\(^2,3\)
- Marriage
- Age 30-34 years, Urban, Middle Income
- Residence in urban micro epidemics, such as Mumbai

Married Women’s HIV Risks\(^4\)
- Spousal Violence-- IPV
- Husband’s Risky Drinking

Few Efforts Exist to Intervene with these At Risk Wives
Why Was RHANI Wives Created?

Effective HIV interventions in India exist for:

- Female Sex Workers\(^5\)
- Male clients of female sex workers\(^5,6\)

Assumptions are that this is sufficient to reduce wives’ risk, but there is no evidence indicating this is the case.

TO ADDRESS THIS GAP, WE CREATED:
RHANI [Raising HIV Awareness in Non-HIV-Infected Indian] Wives
How Was RHANI Wives Created?

Formative research was conducted with wives and providers in HIV-affected Mumbai slum communities

• Findings from focus groups and in-depth interviews:
  • Financial stresses and husbands’ alcohol use exacerbate IPV
  • Marital communication was uncommon
  • Women lacked but wanted sex education
  • Women wanted counseling on IPV and sex, but privately
  • HIV was a worry but not a priority
The RHANI Wives HIV Intervention

**Content focus** -- marital stresses (financial stress, alcohol, IPV) and marital communication, healthy sexual relationships, social and formal support

**Structure** -- 6 week program with 4 individual sessions in the home and 2 group sessions (very low attendance)

**Context** -- In the household/community; community street theatre prior to women receiving intervention
RHANI Wives Street Theatre for Community Preparation

Street theatre based on the theme that IPV is always unacceptable and can be related to both husband’s alcohol use and HIV risk

*(written by theatre troupe with research team)*
RHANI Wives-Individual Session Activities

1) Identifying Problem:
   a) “Thermometer” to rate Pictures of Stressors (financial, alcohol, IPV, poor health (includes sexual health/safety)
   b) Cyclical Figure created with pictures- shows intersection of stressors

2) Problem Solving (order: finance/alcohol, IPV, sex risk)
   a) Prioritize problems and identify potential solutions. Solutions focused on communication and help-seeking. Formal services identified.
   b) Story Telling by the Counselor-- To reduce stigma and to increase problem solving and help-seeking

3) Create Action Plans to Reduce Risk/Stress
   a) Create action steps to actualize identified solutions. Drawn.
   b) Cognitively rehearse action plan (communication or help-seeking)
RHANI Wives- Group Session Activities

1) Group Support and Collective Action:
   Women were to come together in groups of 10-12 to provide social support and reduce isolation, but also to collectively consider and act upon the shared financial, social and health-related stressors in their lives.

2) Shared Solution Building
   Women could share their solutions to the stressors identified and support one another to build a “tool box” of solutions.

PROBLEM IN PRACTICE
Only 28% of women attended groups, due to desire for privacy, ease of mobility, and scheduling concerns.
RHANI Wives Economic Intervention Activities – Could not be implemented

1) Group education on financial planning and microfinance opportunities.

2) Linkage to microfinance and microloan programs.
Evaluation of RHANI Wives

STUDY DESIGN

• A two-armed cluster RCT compared RHANI Wives to a control condition (HIV/STI testing referral + street theatre).

RECRUITMENT

• From July 2010 and June 2011, 220 eligible women were enrolled using household recruitment in selected clusters (7 intervention, 6 control)

PROCEDURE

• Survey data collected at baseline and 3 month follow-up.
• All data collection and intervention delivery were conducted in Hindi or Marathi by trained female research staff.
• No monetary or other incentive was provided.

IRB approval from: UCSD, Boston Univ, Natl Institute of Research on Reproductive Health
Who are RHANI Wives?

Wives aged 18-40 yrs

Urban slum dwellers in Bhandup, a suburb of Mumbai.

Reporting that their husbands have:

- Perpetrated violence* against them
- Come home drunk in the past 30 days (indicative of risky alcohol use)

*Women reporting life threatening abuse were excluded and referred to an IPV program from local public institutions
Fig. 1 RHANI Wives cluster randomized controlled trial recruitment and participation flow diagram

- 2410 households assessed for eligibility
- 2190 Households Excluded
  - 2125 Ineligible
  - 65 Eligible but Refused
- 220 Randomized
- 118 Intervention (6 sessions) Participants
  - 73 Completed 4-6 Sessions
  - 11 Completed 1-3 Sessions
  - 34 Completed 0 Sessions
- 102 Control Participants
  - 18 Lost to Follow-up
  - 0 Withdrawn from Study
- 25 Lost to Follow-up
  - 0 Withdrawn from Study
- 93 Included in Analyses
- 85 Included in Analyses

SUB-OPTIMAL RECRUITMENT STRATEGY
- 12% eligible
- 77% of these participated
- Of intervention participants
  - 28% received 0 sessions
  - 62% received all indiv. sessions
Safety Monitoring and Management

Safety protocols created using WHO Guidelines

• Protocols for how research staff should proceed if they suspect that a study participant is suffering from partner violence.

Internal Data Safety and Monitoring

• Weekly study team meetings were held to keep both research and intervention teams about any issues that may arise related to data safety and monitoring.

Monthly Data Reports

Measures to protect confidentiality
Data Analysis

• Intent to treat analyses

• Outcomes examined via logistic and Poisson generalized linear mixed models (GLMM)
  • cluster as a random effect
  • time, treatment group, and the time x treatment group interaction as fixed effects.

Outcomes included:
  • Number of unprotected marital sex episodes, past 3 months
  • Marital condom use at last sex
  • Physical violence from husband, past 3 months
  • Sexual coercion from husband, past 3 months
## Results

### Intervention effect on the ratio of unprotected to total number of vaginal sex acts with spouse partner, past 30 days

<table>
<thead>
<tr>
<th>Simple Effect Level</th>
<th>Comparisons</th>
<th>Rate Ratio Estimate</th>
<th>Lower CL</th>
<th>Upper CL</th>
<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Group</td>
<td>Follow-up vs. Baseline</td>
<td>0.866</td>
<td>0.794</td>
<td>0.946</td>
<td>-3.20</td>
<td>0.002</td>
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<tr>
<td>Control Group</td>
<td>Follow-up vs. Baseline</td>
<td>1.005</td>
<td>0.936</td>
<td>1.078</td>
<td>0.13</td>
<td>0.899</td>
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<tr>
<td>Follow-up</td>
<td>Intervention vs. Control</td>
<td>0.836</td>
<td>0.753</td>
<td>0.929</td>
<td>-3.34</td>
<td>0.001</td>
</tr>
<tr>
<td>Baseline</td>
<td>Intervention vs. Control</td>
<td>0.970</td>
<td>0.897</td>
<td>1.048</td>
<td>-0.78</td>
<td>0.436</td>
</tr>
</tbody>
</table>

Note: Visit by Group Interaction (p-value=0.01)

Intervention participants were less likely than control participants to have unprotected sex at follow-up.
### Intervention effect on the probability of using a condom at last sex with husband

<table>
<thead>
<tr>
<th>Simple Effect Level</th>
<th>Comparisons</th>
<th>Odds Ratio Estimate</th>
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<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Group</td>
<td>Follow-up vs. Baseline</td>
<td>2.605</td>
<td>1.301</td>
<td>5.216</td>
<td>2.71</td>
<td>0.007</td>
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<td>Control Group</td>
<td>Follow-up vs. Baseline</td>
<td>1.118</td>
<td>0.479</td>
<td>2.609</td>
<td>0.26</td>
<td>0.796</td>
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<td>Follow-up</td>
<td>Intervention vs. Control</td>
<td>2.401</td>
<td>1.002</td>
<td>5.758</td>
<td>1.97</td>
<td>0.049</td>
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<td>Baseline</td>
<td>Intervention vs. Control</td>
<td>1.030</td>
<td>0.426</td>
<td>2.491</td>
<td>0.07</td>
<td>0.947</td>
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</table>

Note: Visit by Group Interaction (p-value=0.13)

Intervention participants were 2.4x more likely than control participants to have used a condom at last sex at follow-up.
### Intervention effect on the probability of physical IPV

<table>
<thead>
<tr>
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<th>Lower CL</th>
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<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Group</td>
<td>Follow-up vs. Baseline</td>
<td>0.395</td>
<td>0.210</td>
<td>0.741</td>
<td>-2.90</td>
<td>0.004</td>
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<td>Control Group</td>
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<td>0.410</td>
<td>0.204</td>
<td>0.826</td>
<td>-2.50</td>
<td>0.013</td>
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<td>Follow-up</td>
<td>Intervention vs. Control</td>
<td>1.191</td>
<td>0.459</td>
<td>3.089</td>
<td>0.36</td>
<td>0.718</td>
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<td>Baseline</td>
<td>Intervention vs. Control</td>
<td>1.239</td>
<td>0.590</td>
<td>2.601</td>
<td>0.57</td>
<td>0.571</td>
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</tbody>
</table>

Note: Visit by Group Interaction (p-value=0.94)

Intervention and control participants reported significant reduction in physical IPV; no difference between groups.
**Intervention effect on the probability of sexual coercion by husband**

<table>
<thead>
<tr>
<th>Simple Effect Level</th>
<th>Comparisons</th>
<th>Odds Ratio Estimate</th>
<th>Lower CL</th>
<th>Upper CL</th>
<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Group</td>
<td>Follow-up vs. Baseline</td>
<td>0.170</td>
<td>0.065</td>
<td>0.442</td>
<td>-3.65</td>
<td>&lt;0.001</td>
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<td>Control Group</td>
<td>Follow-up vs. Baseline</td>
<td>0.516</td>
<td>0.232</td>
<td>1.146</td>
<td>-1.63</td>
<td>0.104</td>
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<tr>
<td>Follow-up</td>
<td>Intervention vs. Control</td>
<td>0.473</td>
<td>0.131</td>
<td>1.705</td>
<td>-1.15</td>
<td>0.252</td>
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<tr>
<td>Baseline</td>
<td>Intervention vs. Control</td>
<td>1.437</td>
<td>0.650</td>
<td>3.176</td>
<td>0.90</td>
<td>0.369</td>
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Note: Visit by Group Interaction (p-value=0.08)

**Intervention but not control participants reported significant reduction in sexual coercion from baseline to follow-up.**
Conclusions and Limitations

RHANI Wives appears to:

- Reduce unsafe sex practices by increasing condom use
- Reduce marital sexual coercion

Difficulties with Implementation

- Household recruitment for RHANI Wives is inefficient
- No concrete economic empowerment strategies
- Individual sessions were better received and utilized than group sessions. Collective approaches thus proved difficult.

Limitations include: reliance on self-report, short term follow-up, limited generalizability. Long term follow-up study is needed.
Implications

RHANI Wives is a promising sexual health intervention for women at risk for HIV/STI or IPV from husbands

With a decline in new cases of HIV, it will be important for future use of RHANI Wives to consider:

• Focus on women at higher risk for HIV, such as female sex workers
• Inclusion of onsite HIV testing, building on “test and treat” models of prevention
• Broadening health targets to family planning promotion
References


RHANI Wives Outcome Papers:


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Welcome to the Center on Gender Equity and Health

We are dedicated to building awareness, research and action on the equitable treatment of women and girls as a means of improving the health of populations globally.

About Our Mission

Live Twitter Feed

Tweets

Child Marriage Focus of United Nations General Assembly Meeting

Work Around the Globe

Recently published in STI, a paper by Dr. Elizabeth Reed featured as Editor's Choice. Findings show greater STI and sexual risk behaviors for STI among males who perpetrate teen dating violence, which may also explain higher reports of STI among female adolescents with a history of dating violence victimization. Read more.