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Impact of the RHANI Wives intervention on marital conflict and sexual coercion

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Abstract

Objective—To assess the effects of the RHANI (Reducing HIV among Non-Infected) Wives intervention on marital conflict and intimate partner violence (IPV) in urban India.

Methods—A 2-armed cluster-randomized controlled trial (7 intervention, 6 control clusters) of the RHANI Wives intervention was conducted with 220 women contending with a history of IPV and/or husband's drunken behavior. Participants were surveyed at baseline and 4.5-month follow-up. Outcome measures included marital conflict (arguments with husband in past 3 months), marital IPV (physical or sexual violence from husband in past 3 months), and marital sexual coercion (husband forcing sex at last sex). Intention-to-treat logistic generalized linear mixed models were used to determine intervention impact.

Results—One-third (35.0%) of participants reported physical or sexual abuse from their husband in the past 3 months, and 58.6% reported that their husband was drunk in the past 30 days. Intention-to-treat analyses indicated time × treatment reductions in marital conflict (risk ratio [RR]

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Conflict of interest

The authors have no conflicts of interest.

0.4; 90% confidence interval [CI], 0.1–0.9; $P=0.06$) and marital sexual coercion (RR 0.2; 90% CI, 0.05–0.9; $P=0.08$), but not IPV.

Conclusion—The findings suggest the potential utility of this intervention in reducing marital conflict and sexual coercion among women in urban India.

Keywords

HIV prevention; India; Marital conflict; Sexual Coercion; Violence

1. Introduction

Intimate partner violence (IPV) in marriage, including both physical and sexual abuse, affects more than 1 in 3 married women in India [1,2]. Studies indicate that violence may contribute to HIV infection directly through transmission of HIV during rape and indirectly through increasing vulnerability to risky sexual behavior [3–5]. Research also indicates that violence may inhibit access to HIV-testing and prevention services [6,7] among both married women [2] and high-risk groups such as female sex workers [8–10], further increasing women's HIV risk. Among married women in India, research documents that physical violence combined with sexual violence from husbands is associated with an increased likelihood of HIV infection [2]. Despite the well-documented increasing percentage of new HIV cases represented by women, particularly for those contending with violence from their male partners, there remains a paucity of interventions with demonstrated impact on reducing male-perpetrated IPV. Notably, the most well-known studies having such impact were the result of HIV/sexual risk reduction interventions, which included consideration of IPV as a risk factor for HIV [11,12]. Both of these studies involved cluster-randomized controlled trials of community-based multisession HIV interventions conducted in South Africa; such trials are now being conducted in Asia.

Despite the high prevalence of IPV among married women in India, the demonstrated connection between HIV and IPV, and the many large-scale HIV prevention major investments in this context, no published studies have assessed the effect of HIV prevention programming in this region on violence or sexual coercion from male partners. Previous studies indicate reductions in violence among female sex workers as a result of crisis response interventions within HIV prevention programs [13,14]. However, these studies were not originally designed to evaluate intervention impact and, as a result, these interventions have not been rigorously evaluated.

RHANI (Reducing HIV among Non-Infected) Wives is an HIV intervention with married women in India that includes considerations of marital conflict and IPV. This multisession intervention for women in low-income communities in urban India includes both individual and group sessions and is focused on women's problem solving regarding marital conflict by building their skills to self-negotiate and find resources against marital difficulties, including physical and sexual IPV. Effects of RHANI Wives on marital conflict and violence are presented here; findings regarding effects on sexual risk reduction are presented elsewhere [15].

2. Materials and methods

A 2-armed cluster-randomized controlled trial of the RHANI Wives intervention was conducted from June 4, 2010, to June 30, 2011, in a low-income community (slum) in Mumbai, India. The study community has a population of approximately 200 000, spread over 2 km². The geographic terrain of the slum includes both plain and hilly land. Approximately 90% of the houses consist of 1 room in which all nuclear-family members reside, with a small portion of the space for cooking and bathing. Male residents are employed primarily as daily-wage laborers. There are many community locales selling local liquor (*Desi daru*) and English liquor (e.g. whiskey). In total, 8 liquor shops with government licenses are located in different parts of the community. Additionally, each cluster in the community has at least 1 household selling liquor (mostly local liquor) illegally to the people of the cluster.

The study community was further divided into different geographic clusters for randomization by the research team prior to study implementation. Clusters were selected via mapping of the study area by geographic boundaries (e.g. a hill or a street) and population density, such that each geographic cluster included approximately 300 households. This approach resulted in 22 clusters, 13 of which were selected for study inclusion based on indications of large numbers of alcohol venues within them. One cluster was utilized for piloting but retained in the study, as no changes were made to the program. The remaining 12 clusters were randomized to intervention or control conditions.

Within selected clusters, trained female research staff approached all households to determine whether a married woman aged 18–40 years (used as a first level of screening) was available. If a woman in the specified age range was at home, research staff initiated a conversation to introduce the study as a health-focused research project for women in the community. Research staff then assessed the woman's willingness to participate. If the woman indicated interest, a private space was identified within the house or nearby for the consent process and study eligibility assessment. Owing to the low literacy rates of the population of focus and the sensitivity of the topic, consent forms were read in full to all participants, and written informed consent was obtained prior to screening for eligibility. The consent form outlined that the purpose of the project was to evaluate an HIV prevention intervention for women contending with husbands who engage in recent heavy alcohol use and/or have been physically or sexually abusive in the marital relationship. The consent form clarified that participants would participate in 2 rounds of survey assessment and would receive either the multisession intervention or a brief single-session intervention. The participants were informed after consent whether they were in the intervention or the control group. Thus, neither participants nor research staff members were blinded to treatment condition. All study procedures were reviewed and approved by the institutional review boards of Boston University Medical Campus and the Indian Council of Medical Research.

Subsequent to acquisition of written informed consent, the 20-minute eligibility screener was conducted. The screener included a variety of questions on health care, fertility and parity, and family tobacco use in order to increase rapport with the interviewer prior to the questions on husband's alcohol use and abusive behaviors. The woman was identified as

eligible if she satisfied the following criteria: 18–40 years of age; fluent in Hindi or Marathi; resided with her husband in the area of study for a period of 2 months or more; reported that her husband engaged in heavy drinking (past 30-day drunken behavior or 3 drinking days in past 7 days) or that she had experienced lifetime physical or sexual spousal violence perpetration; and had no plans to relocate from the area in the next year. Once the woman was determined eligible, research staff again clarified the study procedures and asked whether she would like to participate in the broader study, which involved 2 detailed surveys over a 5-month period, as well as an HIV intervention program for those women residing in intervention cluster areas.

Over the 1-year recruitment period, research staff approached 2410 households that included married women aged 18–40 years who agreed to screening. Of those screened, 285 women were eligible (11.8% eligibility rate); 220 eligible women agreed to participate (77.2% participation rate) and were enrolled into the study (Figure 1). Of those who were eligible but refused participation, time constraints and husband disapproval of participation were cited as primary reasons for refusal. Such low eligibility rates are believed to be a consequence of our informed consent outlining potentially stigmatizing eligibility criteria (e.g. spousal violence and husband drinking) prior to screening. Women who were enrolled from intervention clusters were then linked with the RHANI Wives program. Women were assessed again at 4.5 months post-baseline; an 80.9% (n=178/220) follow-up rate was achieved. Non-response at follow-up was primarily because of participants' relocation to a different community (many lived in rented houses). However, a small number of participants (n=10) dropped out during the study because of family disapproval of their participation. All data collection procedures were conducted in Hindi or Marathi, and no monetary incentive was provided for study or program participation.

The RHANI Wives intervention included 4 individual sessions in the household and 2 group sessions in the community delivered over 6–9 weeks by a trained master's-level counselor. Individual sessions focused on problem solving related to marital communication regarding issues of conflict by building women's skills to negotiate and find resources. Conflict issues of focus were the sexual relationship, financial and family pressures, and husband's alcohol use. Group sessions reinforced individual sessions through education and provided a potential for social cohesion among women living in the community. The first individual session was conducted in week 1 (post-baseline survey) and was aimed at introductions and discussion regarding financial stresses and women's health using tools created for the intervention, such as a modified thermometer and various scales to measure levels of stress and burden. The second individual session was conducted during weeks 1–2, depending on convenience for the participant. The second session focused on issues around alcohol, violence, financial stress, and poor health of family using cyclical figures designed for the project to illustrate the relationship between these areas. Subsequent to the 2 individual sessions, the first group session was conducted in weeks 2–4; a counselor used reconstructed stories documenting women's marital issues (alcohol, violence, sexual infidelity) to stimulate group discussion on problem-solving issues related to alcohol, violence, and sexual infidelity through marital communication and negotiation. The third individual session was conducted in weeks 3–6 and focused on implementation of problemsolving and action plans discussed during the previous group session. Subsequent to this, the second group

session was conducted using games created to share stories documenting women's marital issues (alcohol, violence, and sexual infidelity) and to facilitate discussion on ways to reduce harms associated with these issues via acquisition of local services specific to each topic. The last individual session was conducted during weeks 5–9; it focused on implementation of problem-solving and action plans discussed during the second group session and to check on and update the problem-solving and action plans (if the participant could not attend group session) to reduce risk/stress.

The RHANI Wives intervention was based on Social Cognitive Theory [16] and the Theory of Gender and Power (TGP) [17]. Social Cognitive Theory application supported focus on HIV/sexually transmitted infection (STI) knowledge and condom skills building, as well as safer-sex social norms and motivation. Theory of Gender and Power guided the intervention focus on problem solving and skills building toward marital communication and conflict; embedded in this was gender-equity counseling and support. The TGP approach supported women to take a more active and assertive stance with husbands. Prior to the start of the program, intervention counselors were trained on the safety protocol for survivors of IPV, as recommended by WHO [18]. The contents of this protocol included assessment of severity of violence, and steps for addressing situations where physical or sexual violence is occurring, including making appropriate referrals and development of safety plans. The intervention prioritized the safety of counselors and participants in the field owing to the sensitive nature of the project.

The control condition involved referral to local social services for survivors of violence, and local urban health centers for HIV and STI testing and treatment. Women in the control condition were informed through the consent process that they could be at risk for HIV from their husbands and that consistent condom use could help prevent the transmission of HIV. Additionally, in both intervention and control conditions, 2 street plays were performed in each cluster prior to study implementation. The plays focused on the impact of risky alcohol use by the husband and marital violence on the family, and the need for community support against these practices. Further details on the recruitment procedures, intervention sessions, and activities, including the process evaluation and quality assurance component, are available elsewhere [15].

Survey measures included single items on sociodemographics (e.g. age, education, and religion). The outcome measures used for the study were single questions in the survey instrument, including the following: “Did you and your husband have any argument in the past 3 months?” (marital conflict); “Have you and your husband had an argument or fight where he physically or sexually hurt you in the past 3 months?” (physical/sexual violence); and “Was there any coercion or pressure on you to have sex the last time you had sex with your husband?” (sexual coercion).

Outcome analyses used an intention-to-treat approach and assessed the impact of RHANI Wives on marital conflict and violence. χ^2 analyses were conducted to determine demographic and IPV differences between treatment groups at baseline and between participants who were and were not retained for follow-up. Logistic generalized linear mixed models were constructed with cluster as a random effect and with time, treatment

group, and time \times treatment interaction as fixed effects. Given the large number of intervention participants who received no sessions (34/118 [28.8%]), exploratory dose analyses were also conducted, in which intervention participants receiving any sessions were compared with study participants receiving no sessions (including intervention and control participants) using the same time \times treatment analyses as used in the intention-to-treat analyses. Post hoc treatment group-stratified analyses were conducted to study changes in outcome over time by treatment group. All analyses were adjusted for age, religion, and education. Significance was set at $P < 0.1$ on interaction effects, given the small sample size to detect the effects at 0.05. STATA version 11.0 (StataCorp, College Station, TX, USA) was used to conduct all statistical analyses.

3. Results

Mean age of participants was 29.5 ± 5.8 years and mean marital length was 11.7 ± 6.5 years (Table 1). Forty-seven (21.4%) women had no formal education, and 68 (30.9%) reported any personal income generation. Seventy-seven (35.0%) participants reported physical or sexual abuse from their husband in the past 90 days, and 129 (58.6%) reported that their husband was drunk in the past 30 days. Only religion differed significantly between groups at baseline ($P = 0.03$); no differences were seen between women who were and those who were not retained at follow-up.

Intention-to-treat analyses indicated time \times treatment impact on marital conflict (risk ratio [RR] 0.4; 90% confidence interval [CI], 0.1–0.9; $P = 0.06$) and marital sexual coercion (RR 0.2; 95% CI, 0.05–0.9; $P = 0.08$), but not IPV (Table 2). Intervention participants reported significant reductions in marital conflict ($P < 0.001$), marital IPV ($P = 0.002$), and marital sexual coercion ($P = 0.004$); control participants reported significant reductions in marital conflict ($P = 0.002$) and IPV ($P = 0.011$), but not marital sexual coercion. Dose analyses documented similar trends to that seen in intention-to-treat analyses (Table 3).

4. Discussion

The present findings indicate the effectiveness of the RHANI Wives intervention in reducing marital conflict and sexual coercion among women contending with male partner violence and risky alcohol use in urban India. The results are consistent with previous research results from South Africa highlighting the utility of HIV sexual risk reduction interventions, inclusive of IPV prevention efforts [11,12,19]. Although the present findings did not demonstrate significant intervention impact on recent IPV compared with controls, IPV did significantly decrease over time for both intervention and control participants. These findings indicate the utility of the RHANI Wives intervention approach, which is aimed at improving marital communication and negotiation skills of women as means of reducing marital conflict in abusive relationships.

The evidence from the present pilot intervention study indicates that such a program can reduce levels of marital conflict and sexual coercion. It also shows the impact of intervention on reduction in unsafe sexual practices in marriage [15] and has highlighted the reproductive health concerns of these women in the absence of intervention [20]. The impact

of intervention on reduction in sexual coercion probably relates to increases in women's sexual negotiation power, supporting observed reductions in sex without a condom (i.e. reduced risk for HIV transmission).

The present study is important given the paucity of interventions demonstrating impact on marital conflict and sexual coercion in India and elsewhere. However, the results must be considered in light of certain limitations. Reliance on self-report outcomes increases risk for social desirability biases, which may in part explain improvements for both intervention and control conditions. The small sample size might have affected detection of significant IPV and sexual coercion effect estimates. The study was intended originally to measure its effect on marital condom use, and was probably insufficiently powered to determine impact on recent IPV. The significant reduction in marital conflict, IPV, and sexual coercion over time witnessed among both intervention and control participants in post-hoc analyses could have been due to high-impact street plays in both of the areas, information given to participants through the consent process, and active referrals in the project to both health and social services. The short duration of follow-up impaired the evaluation of long-term impact on marital conflict, and this relationship cannot be assumed based on the current findings.

An important concern in the present study was the low participation rate. Almost one-quarter of participants from the intervention areas received no sessions, although they gave consent to participate. The reasons for women's non-participation in any of the sessions were as follows: disapproval of in-laws and/or husband regarding participation in the project after woman responded to baseline survey; no time for participation; and no privacy for participation in the household because husband was unemployed, drinking, and/or at home most of the time. These reasons indicate the need for safe spaces (beyond their own household) to provide such intervention for women contending with marital conflict and violence.

Despite these limitations, the present results show that a low-intensity, low-cost intervention may reduce marital conflict and sexual coercion among women contending with marital violence and/or husband's alcohol abuse. The findings show that intervention aimed at building the skills of women to negotiate marital sex and to find their own formal and informal resources for support against marital difficulties and HIV risks may have important corollary benefits in terms of reducing marital conflict and sexual coercion. At the same time, limitations of the study underscore the challenges associated with engaging only female partners to change men's IPV perpetration in a short period. Larger-scale and longer-term research studies are needed to confirm the current intervention findings, and findings may be strengthened by simultaneous outreach to and intervention with male partners.

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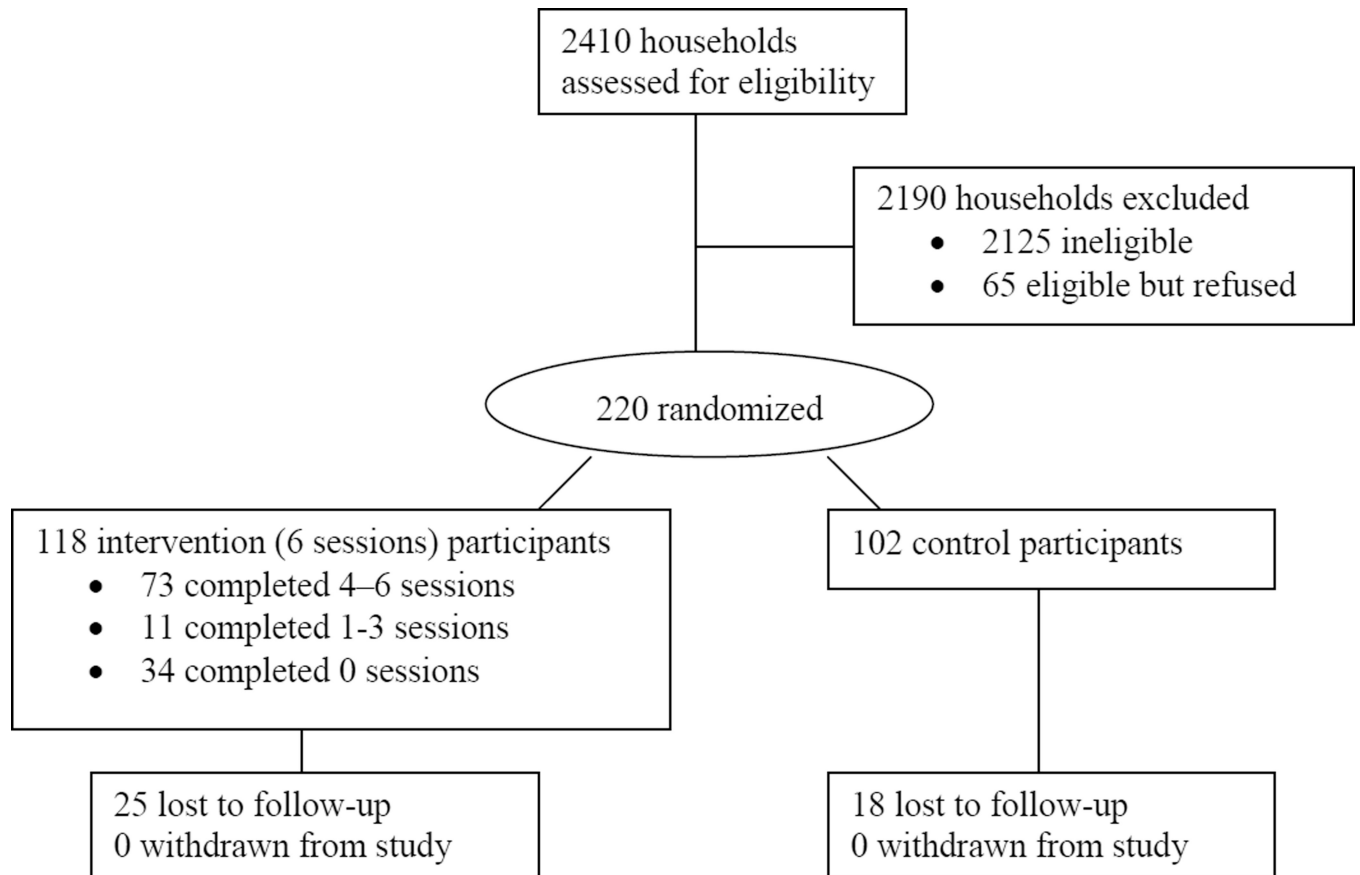


Figure 1.
Recruitment and participation flow diagram.

Table 1Sociodemographic characteristics of participants ^a

Characteristic	Total sample (n=220)	Intervention group (n=118)	Control group (n=102)
Age, y	29.5 ± 5.8 (18–40)	28.9 ± 6.0 (18–40)	29.9 ± 5.5 (18–40)
18–30	136 (61.8)	78 (66.1)	58 (56.9)
31–40	84 (38.2)	40 (33.9)	44 (43.1)
Education			
No formal education	47 (21.4)	27 (22.9)	20 (19.6)
Formal education	173 (78.6)	91 (77.1)	82 (80.4)
Religion			
Hindu	140 (63.6)	77 (65.3)	63 (61.8)
Non-Hindu	80 (36.4)	41 (34.7)	39 (38.2)
No. of children	2.4 ± 1.2 (0–7)	2.3 ± 1.1 (0–5)	2.4 ± 1.4 (0–7)
Intimate partner violence (physical or sexual) in past 90 days	77 (35.0)	45 (38.1)	32 (31.4)
Husband drunk in past 30 days	129 (58.6)	74 (62.7)	55 (53.9)

^a Values are given as mean ± SD (range) or number (percentage).

Intention-to-treat analyses to assess impact of receipt of intervention sessions on marital conflict and violence over time (n=220) ^a

Table 2

	Intervention group (n=118)		Control group (n=102)		Time × treatment	P value ^b
	Time 1	Time 2	Time 1	Time 2		
Marital conflict (past 3 months)	75 (63.6)	32 (26.9)	53 (51.9)	33 (32.1)	0.4 (0.1–0.9)	0.064
Intimate partner violence (past 3 months)	45 (38.1)	20 (17.2)	32 (31.4)	17 (16.7)	0.7 (0.2–1.8)	0.548
Sexual coercion ^c	36 (30.7)	9 (7.7)	19 (18.8)	12 (11.8)	0.2 (0.05–0.9)	0.082

^aValues are given as number (percentage) or risk ratio (90% confidence interval) unless otherwise indicated.

^bAdjusted for age, education, and religion.

^cFor subsample of participants reporting sex in past 90 days (n=173): intervention group, n=88; control group, n=85.

Table 3
Dose analyses to assess impact of receipt of intervention sessions on marital conflict and violence over time (n=220) ^a

	Any dose (intervention sessions) received (n=84)		No dose (intervention sessions) received (n=136)		Time × treatment	P value ^b
	Time 1	Time 2	Time 1	Time 2		
Marital conflict (past 3 months)	58 (69.1)	24 (29.1)	70 (51.5)	40 (29.6)	0.3 (0.1–0.8)	0.051
Intimate partner violence (past 3 months)	36 (42.9)	17 (20.3)	41 (30.2)	19 (14.3)	0.9 (0.3–2.3)	0.804
Sexual coercion ^c	30 (36.1)	7 (8.9)	25 (18.7)	14 (10.4)	0.2 (0.05–1.0)	0.103

^a Values are given as number (percentage) or risk ratio (90% confidence interval) unless otherwise indicated.

^b Adjusted for age, education, and religion.

^c For subsample of participants reporting sex in past 90 days (n=173): intervention group, n=61; control group, n=112.