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Feasibility and Effectiveness of HIV Prevention Among Wives of Heavy Drinkers in Bangalore, India

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Abstract

Few studies have examined the effectiveness of community based HIV interventions for monogamous married women. We examined prevalence of risky behaviors and effectiveness of a Western intervention on increased knowledge and reductions in risky behaviors among wives of heavy drinkers in an urban slum in Bangalore, India. Household enumeration was conducted on 509 households; wives of the youngest married man 18 to 50 years of age who scored 8+ on the Alcohol Use Disorder Identification Test (AUDIT) were selected (N=100) and assessed with Indian adaptations of the Substance Abuse Module (SAM), the Washington University Risk Behavior Assessment for Women (WU-RBA-W), the Violence Exposure Questionnaire (VEQ), the CES-D, the Diagnostic Interview Schedule (DIS-IV), and a Proxy AUDIT. After random assignment to either the Standard (Pre-post HIV counseling; N=50) or the Enhanced Intervention (Standard + Body Wise Intervention; N=50), women were re-assessed at 2 months; a 100% follow-up rate was achieved. Though no major intervention effects were found, at follow-up women were less likely to report victimization and perpetrated violence, more likely to feel empowered to make decisions about birth control, and were more knowledgeable about how to protect themselves from STDs and HIV. The findings have implications for HIV prevention among at risk monogamous women in community settings.

Keywords

HIV Prevention; RCT; Women; Community Based Research; India; AUDIT; DIS

INTRODUCTION

In India, one million out of 2.5 million people estimated to be living with HIV/AIDS are women.^{1–2} In some States in India, which have patriarchal cultures, several factors increase women's vulnerability to HIV: poorer access to education and information for women compared to men, high unemployment for women, early marriage, exposure to violence, limited access to health care, and limited or no decision making power in issues concerning sexual relations and birth control.

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In India, one of the greatest risks women face in the acquisition of HIV is their spouse's extramarital sexual activities.³⁻⁵ According to NACO², women account for 30% of all new infections, despite the fact that 90% of them were in monogamous relationships; thus, the infections can be attributed to their husband's risky sexual behavior. Gangakhedkar et al⁶ found that especially younger women in monogamous marital relationships had a high prevalence (13.6%) of HIV and related STIs or were thought to be at highest risk for HIV/STIs. Chakrapani et al⁷, in a retrospective study of 134 HIV infected women, found no identifiable risk factors among the infected women, suggesting that the spouse had had extramarital sexual encounters.

A common mode of HIV transmission in India is through unsafe sexual practices. Research has found that risky sexual behavior among men is often accompanied with problem drinking. Chandra et al⁸ found, among a sample of psychiatric inpatients in India, that engaging in risky sexual behaviors was associated with being male, using tobacco and screening positive for either drug use or alcohol problems. Go et al⁹, in a general population survey in Southern India, found that men who frequented alcohol venues were more likely to practice unsafe sex and have a higher prevalence of HIV and STIs than a general household sample of men who did not frequent alcohol venues. In another study by the same group, Sivaram et al¹⁰⁻¹¹ found that men who visited wine shops, as well as the staff of wine shops, reported comorbid high risk alcohol use and sexual behaviors.

Intimate Partner Violence (IPV) is prevalent in India and is one of the most important risks associated with HIV risk factors.¹²⁻¹⁵ Compared to married Indian women who did not report IPV, married women who reported both physical and sexual violence from their spouse were at an elevated risk for HIV.¹⁶ A nationally representative sample of married couples from the Indian National Family Health Survey-3, conducted across all states between 2005 and 2006, showed that one third of the wives reported IPV. Further, compared to non-abusive spouses, abusive spouses had a greater likelihood of HIV acquisition from extramarital relationships. A husband's HIV infection was associated with increased HIV risk among wives; rather alarmingly, in adjusted models, this risk was elevated 7-fold in abusive relationships.¹⁷

Interventions for Indian women are needed to increase awareness of the important issues and to empower women to help make changes that are meaningful and relevant to them. Although different evidence-based HIV preventive interventions have been developed, very few have been empirically tested for their effectiveness on important outcome indicators.¹⁸ Even fewer empirical studies on HIV preventive interventions have been reported from India. Since HIV is more prevalent in men and a woman's risk for HIV is attributed to her spouse's high risk behavior, much of the prevention efforts have largely focused on men, or on female sex workers. No known empirical HIV preventive intervention studies have been conducted on married women in monogamous relationships whose primary risk is due to their spouse's problem drinking and unsafe sexual practices. Further, few HIV prevention studies in India have been rigorously tested using randomized controlled trials. In this study, we examined the feasibility of using a research methodology and an HIV prevention intervention that was tried and tested in a Western setting¹⁹ that could be adapted to the Indian culture. Besides examining its feasibility in this context, the study also aimed to understand the effectiveness of the intervention on behavior change and follow-up rates, which up to this point, have been low in the Indian research context.

METHODS

Data for these analyses come from the World AIDS Foundation (WAF) funded feasibility study, 'Community based intervention to prevent HIV infection among at risk women in Bangalore, India'. 'At risk women' were defined as wives of heavy drinking men.^{3, 5} The study was approved by the Institutional Review Boards of Washington University School of

Medicine, St. Louis, as well as the National Institute of Mental Health and Neuro Sciences (NIMHANS), India, the National AIDS Control Association (NACO) and the Indian Council of Medical Research (ICMR). One of the challenges of the study was the 29 months it took to be approved by the ICMR (Indian Council for Medical Research).

Enumeration

To identify the wives of heavy drinking men, heavy drinking men needed to be identified. We did this via a household enumeration of 509 households from an urban government slum in Bangalore. First, a complete listing of residents was enumerated and the youngest married male in each household was selected for screening for heavy drinking. This person was sampled in order to maintain homogeneity in the sample and to recruit younger women, considered to be at a higher risk for HIV.

The prevalence of problem drinking among the youngest male in the enumerated sample of married men (N=509), measured by the Alcohol Use Disorders Identification Test (AUDIT), was 37% (N=186). Verbal consent was obtained from these 186 men to contact their wives for an HIV prevention study. The first 100 wives of these men were approached (numbers constrained only by the funding level) and invited to participate in the study. Eligible women were between the ages of 18 and 50 years and married to a spouse who scored 8+ on the AUDIT. Women were told that the objectives of the study were to increase awareness about HIV, STDs, substance abuse and mental health problems, and to help them protect themselves and their families from HIV. All 100 invited women agreed to participate.

A team of graduate students and professional interviewers conducted the interviews; they were trained on the enumeration procedures and assessments by the St. Louis and Indian investigators jointly, who developed all protocols. All measures were pilot tested by the team, reviewed regularly via Skype by the team, and revised prior to any translation. During face to face training, additional changes were made based on the team's perceptions; interviews underwent final testing with mock interviews.

Measures

Women were assessed on Indian adaptations of the Substance Abuse Module (SAM), the Washington University Risk Behavior Assessment for Women (WU-RBA-W), the Violence Exposure Questionnaire (VEQ), the Center for Epidemiological Studies-Depression (CES-D), the Diagnostic Interview Schedule (DIS-IV), and the Proxy AUDIT (AUDIT-PR), developed for the present study (PR=Proxy Respondent). The assessments were translated to Kannada (regional language) and back translated to English using the standard procedure for translation, to ensure content validity. Interviews were conducted in private at the Primary Health Center (PHC) within the selected community where the women lived. Written informed consent was obtained.

The baseline interview was conducted over a two week period. The first session included the WU-RBA-W, the SAM and the AUDIT-PR. The WU-RBA-W was an adaptation of that developed for NIDA in the mid-1990s for use in large scale studies of drug users.²⁰ Modifications were specifically made to be culturally relevant for women. The WU-RBA-W is a structured interview that elicits information about Demographics, Drug Use, Sexual Activity, Risk Perceptions, Knowledge of HIV/AIDS Transmission, Health Service Utilization, Treatment History, Religion and Social Support.

The SAM assesses patterns of each lifetime and current abuse and dependence criterion according to DSM-III, DSM-III-R, DSM-IV and ICD-10 for eleven drug categories, alcohol

and nicotine.^{21–22} It was used in the DSM-IV Field Trials for Substance Use Disorders.²³ The SAM has undergone considerable testing and usage both in the US and abroad.

The AUDIT-PR was developed for the purpose of the present study as a proxy for the alcohol use data provided by the husband. The items were modeled on the AUDIT²⁴, except that all items queried the wife's knowledge and perception of her husband's drinking patterns. For example, on the AUDIT the question read, "In the past 30 days, how often have you had a drink containing alcohol?" On the AUDIT-PR, the question read, "In the past 30 days, how often did *your husband* have a drink containing alcohol?" The concordance between AUDIT self report and proxy report, which was good, has been reported elsewhere.²⁵

A second session was conducted two weeks later and consisted of the DIS-IV, the CES-D and the VEQ. The DIS-IV is a standardized psychiatric diagnostic structured interview based on the logic and background of DSM-IV.²⁶ Psychiatric symptoms are assessed for lifetime and past year occurrence of symptoms, their severity, comorbidity, age of onset, course and remission.²⁷ For this study, only the Generalized Anxiety Disorder (GAD) and Post Traumatic Stress Disorder (PTSD) sections of the DIS-IV were used.

The CES-D has had widespread use in clinic and community based research. It contains 20 statements on Depression rated on a 4 point scale. The reliability of its total score and cut off for caseness has been established.²⁸

The VEQ is a structured interview schedule that elicits information about childhood victimization before age 15, adult victimization and perpetration of physical abuse in the past 12 months. Victimization experiences in childhood and adulthood include physical, emotional and sexual abuse.

All women received remuneration, in the form of refreshments, for their participation in the study, as they requested.

Intervention

After the first interview session, women were tested for HIV; they received individual pre-test counseling in accordance with standard NACO guidelines. Women were asked to consent specifically for HIV testing; the consent process detailed the procedure and possible risks and benefits. Women who consented had a blood sample drawn for HIV. After the second interview session, women received their test results; post-test counseling was provided.²⁹

Women were then randomly assigned to one of two groups: the Standard Intervention (Pre/post HIV counseling only; N=50) or the Enhanced Intervention (Standard Intervention + the Body Wise Intervention; N=50). The Body Wise Intervention is a peer delivered educational group intervention that focused on reproductive health and wellness, in accordance with women's needs expressed during focus groups conducted by the Indian and St. Louis teams.³⁰ The Enhanced Intervention included information about nutrition using an Indian adaptation of the food pyramid, exercise ideas, and tips for better health. Additionally, cue cards covered the signs and symptoms of STDs and ways to protect one's self from STDs. Nurses from the Community Health Center, located in the government slum, drew the blood, administered the pre and post-test counseling and conducted the intervention. All women assigned to the intervention participated.

The effectiveness of the risk reduction intervention was assessed among 100% of the sample 2 months post-intervention using the WU-RBA-W, the VEQ and the AUDIT-PR. A longer term follow-up was initially planned, but due to the long delay in receiving the ICMR approval, the follow-up period was curtailed. Thus, the purpose of this study shifted to one of a feasibility

study to understand if Western assessments and intervention methods could be adapted and accepted by Indian women living in the community; by necessity, the study also became a short term effectiveness study.

ANALYSIS

Baseline data from the SAM and DIS were analyzed, as well as baseline and 2-month follow-up data from the WU-RBA-W, and the VEQ. Data were analyzed by one author (VS, while in St. Louis for a Fogarty International Center Fellowship) using SPSS version 15. Chi squares, independent t tests, paired t tests and repeated measures ANOVA were computed to examine behavioral change between the baseline and 2 month periods for the Standard (N=50) vs. Enhanced (N=50) Intervention.

Analyses found no significant differences between the two intervention groups (Standard vs. Enhanced) on any of the major risk behaviors. Thus, we did not continue to search for other differences but instead combined the two intervention groups and analyzed differences in outcomes for overall change from baseline to follow-up among all women.

In the results section, since there are 100 women in the study, and the number of women equals the percent/proportion, numbers of women and proportions are used interchangeably.

RESULTS

Participant Characteristics at Baseline

Women (N=100) were an average 30 years of age (SD=6.46). Over one quarter (27%) were illiterate, 12%, 37% and 24% completed primary (1–4 years), middle (5–7 years) and high school education, respectively. Over one third (37%) of the sample was employed either full time or part time in the past 12 months. The past 12 month income of two thirds of the households ranged from Rs. 2000 to 6000 (approximately USD \$53 to \$158). About 50% of the sample married before the legal age of 18 years.

While the mean total score on the AUDIT self-report administered at the enumeration averaged 16.90 (SD=6.72), the proxy AUDIT completed by the wives was 15.29 (SD=7.04). Statistically significant differences were found between these reports ($t=2.39$, $p<0.01$). Of note, the wife's report of her husband's problem drinking decreased significantly from baseline (15.29) to follow-up (13.00; $t=5.75$, $p<0.001$).

Only two women reported drinking alcohol 5 or more times in the past 12 months (2%); neither met criteria for DSM-IV alcohol abuse or dependence. None of the 100 women reported illicit drug use. Two women met DSM-IV lifetime criteria for Generalized Anxiety Disorder (GAD) (2%) and one met criteria for Post-Traumatic Stress Disorder (PTSD). On the CES-D, 19 women (19%) scored 16 or higher, the cut-off for depressed mood.

Behavior Change at 2 Months

i. Victimization and Perpetration—Rates of exposure to one or more types of abuse (Table Ia) and perpetration of physical violence (Table Ib) were high. Not shown, was a significant association ($p<0.0001$) between past 12 month victimization (emotional, physical, sexual abuse or attack with a weapon) and perpetration of any form of physical violence (hitting, kicking, grabbing someone, etc).

As shown in both Tables Ia and Ib, there was a small but significant decrease from baseline to the 2 month follow-up in the rates of victimization (45 vs. 21; $p=0.0001$) and a significant

decrease in perpetration of violence (25 vs. 6; $p=0.001$). Although not shown, seven women who did not report violence at baseline did report emotional and sexual abuse at follow up.

Also as shown in Table Ic, the proportion of women who anticipated a moderate to high chance of being physically abused, attacked with a weapon or forced to have sex in the 30 days following the interview decreased significantly from baseline to follow-up (25% vs. 6%; $p<0.001$).

ii. Sexual Health Behaviors—As shown in Table IIa, a significantly greater proportion of women at the follow-up, compared to the baseline, reported that decisions regarding the use of birth control were made by the couple together rather than by themselves or their husband alone (43% vs. 51%, $p<0.01$). At baseline, women reported having vaginal sex, on average, 25.87 ($SD=26.10$) times in the past four months, and 28.58 ($SD=30.08$) times in the two months before the follow-up (the number for the 2 month interval was multiplied to give a 4 month estimate). A male condom was almost never used at baseline (0.71 times, $SD=4.06$) or follow-up (1.72 times, $SD=0.36$), though the proportion of time women reporting using a condom increased from 2.7% to 6% (.71/25.87 times vs. 1.72/28.58 times). Frequently cited reasons for not using a condom included: not thinking their partner was infected (72% vs. 68%; $p=0.11$), their partner objected (32% vs. 30%; $p<0.71$), they didn't think about it (63% vs. 34%; $p<0.92$) and they were afraid to ask their partner (23% vs. 7%; $p=0.52$). Reports of these commonly cited reasons did not change from baseline to follow-up.

iii. Perceptions—Women's perceptions of sexual behaviors were not statistically different from baseline to follow-up. However, it was meaningful to see that a few additional women felt they could talk openly and honestly with their sex partner, and felt more comfortable saying “no” to their partner, or telling the partner what they wanted sexually (Table IIb). Also, an increased number of women changed their mind about both male and female masturbation from baseline to the follow-up, reporting that it was a “normal” behavior.

iv. Myths—At follow-up, women were less likely to rely on behaviors mistakenly perceived to protect themselves from HIV or Sexually Transmitted Infections. As shown in Table IIc, women were less likely to report washing their or their partner's genitals before sex with soap (11 vs. 0; 4 vs. 0 respectively) and washing their own genitals after sex with soap (32 vs. 20; $p<0.01$); douching after sex (19 vs. 8) was less likely but not significant statistically. They also reduced the number of these behaviors from baseline to follow-up from 1.15 to .79.

DISCUSSION

There are no published HIV preventive interventions among married Indian women using a Randomized Controlled Trial methodology. Thus, this study represents a unique opportunity to contribute to the field. The sample included at risk women from an enumeration of households in an urban “slum”, whose primary risk for HIV came from their spouse's problem drinking, which is related to high risk sexual behaviors. Consistent with the literature on socio-demographic risk factors, the sample of women we studied were young, married at an early age, unemployed, undereducated, and belonged to a lower socio economic status. Since these women are known to be at risk for HIV¹⁻² and have limited access to information and health care², targeting them for educational interventions is a priority in India.

The rate of problem drinking in this sample of young married men was 37%, which is higher than the excessive rate of alcohol use (9.7%), and the rate of alcohol related problems (27.2%) obtained in another recently reported community sample of men in India.³¹ The rate obtained in our study was for the youngest male in the household in a seriously economically deprived area, compared to the Nayak study. While all the women were married to problem drinking

men, only 2% of the women reported alcohol use and none reported illicit drug use. This is not surprising since studies with Indian women of a similar socio-demographic profile have indicated similarly low rates (less than 5%) of substance use, which many suggest is due to the cultural inappropriateness of alcohol use.^{31–32}

Women were evaluated for the presence of common mental disorders such as DSM-IV GAD, PTSD and depressed mood. While very few women met criteria for GAD or PTSD, which is corroborated by others' work^{33–34}, 19 women (19%) met criteria for depressed mood. Common mental disorders among women of childbearing age, including depression and anxiety disorders, are estimated to be between 6.6% and 8.2% from community samples.^{31, 35} The higher than expected rate of depression among the women in our study could be due to factors that have been found to place women at higher risk for common mental disorders, such as high unemployment, economic deprivation, and poor marital relationships. A recent study found excessive alcohol use by spousal partners, partner violence and attitudes towards violence by women to increase women's risk for depression.³¹ Some suggest that Western assessments are not culturally appropriate for uncovering mental health problems in India.³⁴ The lengthy delay of the ICMR approval process allowed us the opportunity to adequately test our assessments, including their cultural appropriateness. According to the field team it was felt to be highly appropriate, which increased our confidence in these findings.

Indian women reported high rates of violence both as a victim and a perpetrator. Although emotional abuse was the most prevalent type of abuse reported (43%), reports of physical (17%) and sexual abuse (19%) at the baseline were also considerably high. Physical and sexual violence have both been identified as potential risk factors for HIV.^{15–16} The fact that very few women reported victimization experiences as children (before 15 years of age), but almost half reported current victimization, underscores the importance of addressing intimate partner violence in HIV prevention interventions for married Indian women. One quarter of the women reported perpetrating physical violence in the past 12 months. This included acts of hitting, pushing, or grabbing another person, and threatening someone. Perpetration against a spouse might have been considered self-defense, whereas perpetration against children could have been displacement of anger or frustration on an easy and less powerful target. Interestingly, we found that a significant number of victims were also perpetrators of violence in the past 12 months. This is consistent with family violence research that has indicated both a causal link as well as an association between experiencing violence and inflicting violence on others.³⁶

Despite the fact that women continued to report exposure to violence (emotional, physical and sexual) during the follow-up, seven women reported experiencing violence for the first time during the follow-up assessment; this may indicate a new awareness from information they received during the intervention, or pre and post-test counseling. In addition, from baseline to follow-up, significantly fewer women anticipated experiencing violence in the subsequent 30 day period, hopefully because they felt more empowered to protect themselves.

Women reported engaging in unprotected sexual intercourse with their spouse (2.7% to 6% of the time), despite the fact that a significant number of these women (23%) reported knowing that their spouse "cheated on them". Women, particularly in lesser privileged sections of the Indian society, are known to lack the power to negotiate with their spouse regarding sexual matters and use of condoms.⁷ Though there was a statistical trend for the frequency of condom use to increase from the baseline to the follow-up, a significantly fewer number of women reported believing that their husbands cheated on them during the follow-up assessment. Also, a significantly greater number of women reported that decisions regarding use of birth control were made together rather than by the husband alone. This empowerment bodes well for future negotiations between the women and their spouses.

In addition to the above risk factors, women endorsed several myths and misconceptions about HIV risk factors, HIV transmission and HIV/STD prevention. Of interest is the comparison of the data from the Bangalore women to the women from an HIV prevention study in St. Louis. Women in Bangalore were less likely than St. Louis women to endorse the myths and to have misconceptions.³⁷ The risky practices that were more commonly reported by Bangalore women were practices where the woman was in charge (such washing her own genitals or urinating after sex); women were less likely to report engaging in behaviors that involved their partners such as not letting them ejaculate or washing a partner's genitals. At follow-up, women endorsed fewer myths related to HIV transmission compared to baseline. These findings indicate that the women were better informed about HIV following the interview.

Strengths of the study include an important finding -- the 100% follow-up rate. While the St. Louis team has consistently demonstrated high follow-up rates in HIV prevention studies for out of treatment, hidden populations such as community recruited substance using women in the United States³⁸, it was encouraging to demonstrate similar retention rates in India as well. Although the follow-up duration was brief, tracking 100 women was made easier with the persistence of the field staff and use of the locator form that has shown promise in previous studies. Another strength of this study was the use of assessments that can be compared to other work in the U.S.

This study highlights the significant efforts needed to conduct international research. Creativity, cultural competence and persistence are needed to develop assessments, train staff, monitor data quality and intervention fidelity and analyze data thousands of miles and a dozen hours apart from each other. The delay in the ICMR approval process was a major barrier, and one that needs to be modified to help launch more studies in order to advance the science of HIV prevention research. Other limitations include the pilot nature of the study and the small sample size, which diminished the power to adequately test the effectiveness of the intervention. However, the rigorous study methodology bodes well for a replication of these methods with other women, men and other household members, since we have the translated assessments for use and have determined the feasibility of the methods.

The findings suggest that in addition to women's primary risk factor of being married to a spouse with problem drinking and related high risk sexual behaviors, perpetrated and experienced violence is highly prevalent. While the HIV prevention intervention informed the women about HIV, so did the pre and post-test HIV counseling. Given that women had little to no prior exposure to HIV, the counseling itself might have been robust enough to be associated with behavior change.

CONCLUSION

A Western intervention translated to the Indian context proved to be feasible. HIV prevention messages, randomization of women in the field, and high response rates were achievable for the high risk married Indian women. An enumeration of a large number of households, with multiple generations of adults and children was possible and yielded a sample of married men who screened positive for heavy drinking. Their wives were interested and agreeable to being involved in a study of their risk behaviors, including mental health, sexual and other behaviors related to their risk for HIV and STDs. Although the follow-up assessment duration was brief, 100% retention was achieved at the 2 month follow-up. Rates of victimization and perpetration of violence decreased from baseline to follow-up, anticipated risk of future violence decreased, women reported increased ability to make joint decisions about birth control, used condoms slightly more, and had more HIV knowledge. Addressing violence and educating at risk women about HIV risk factors and prevention strategies is a crucial step in tailoring HIV prevention interventions for Indian women in monogamous marital relationships.

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Table I

Rates of victimization, perpetration and anticipated risk of violence: a comparison between baseline and follow-up

Variables	Baseline-past 12 months (N=100)	Follow- up 2 months (N=100)	P Value
a. Rates of Victimization			
Emotional Abuse-someone did or said things to make you feel bad about yourself or your life	43	17	0.0001
Sexual Abuse-someone pressured or forced to participate in sexual acts against your will	19	14	0.45
Physical Abuse-someone hurt you to the point that you had bruises, cuts or broken bones	17	2	•
Someone attacked you with a gun, knife, stick, bottle, or other weapon	3	0	•
Adult Victimization (at least 1 of 4 types of abuse)	45	21	0.0001
b. Rates of Perpetration			
Threatened to hit/throw something	8	1	•
Threw something at someone	4	0	•
Pushed, grabbed, shoved someone	20	4	•
Slapped someone	2	0	•
Kicked, hit, bit someone	4	1	•
Hit someone with an object	4	0	•
Beat up someone	2	0	•
Threatened someone with a Knife/Gun	0	0	•
Used Knife/Gun against someone	0	0	•
Perpetration of physical violence (at least 1 of 9 types of abuse)	25	6	0.001
c. Rates of Anticipated Risk of Violence			
Moderate-high chance of being physically abused, attacked with a weapon or forced to have sex in the next 30 days	25	6	0.001

• Chi Squares were not computed for cell frequencies <5.

Table IIa

HIV risk behaviors: a comparison between baseline and follow-up

Variables	Baseline (N=100)	2-month Follow-up (N=100)	P value
Couple makes decisions about birth control together	43	51	<0.01
Mean # times had vaginal sex – past 4 months (SD)	25.87 (26.10)	28.58 (30.08)	0.001
Mean # times used condom - past 4 months (SD)	0.71 (4.06)	1.72 (3.04)	0.10
Reasons for not using condoms 100% of the time:			
Didn't think partner was infected	72	68	0.11
Partner objected	32	30	0.71
Didn't think about it	63	34	0.92
Was afraid to ask a partner	23	7	0.52

• Chi Squares were not computed for cell frequencies < 5.

Table 1b

Perceptions about sexual issues: a comparison between baseline and follow-up

Variables	Baseline (N=100)	Follow-up (N=100)	P value
It is normal for men to masturbate	39	44	0.19
It is normal for women to masturbate	88	93	0.16
I can talk openly/honestly with my sex partner	65	69	0.53
I don't have difficulty saying 'No' to my sex partner	50	53	0.66
I don't feel upset to discuss sexual issues with my sex partner	72	74	0.47
I have no problem telling my sex partner what I do/do not do sexually	71	75	0.95

Table IIc

Things women did before or after sex to keep from getting HIV/STIs: a comparison between baseline and follow-up

Variables	Baseline (N=100)	2 month Follow-Up (N=100)	P value
Washed your genitals before sex with soap	11	0	•
Washed your partner's genitals before sex with soap	4	0	•
Washed your genitals after sex with soap	32	20	0.01
Not let your partner ejaculate in you	3	1	•
Douched after sex	19	8	0.14
Urinated after sex	38	26	0.14
Mean composite Score of the above six behaviors (SD)	1.15 (1.49)	0.79 (0.20)	p<0.02

• Chi Squares were not computed for cell frequencies < 5.