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How Do We Get Partners to Test for HIV?: Predictors of Uptake of Partner HIV Testing following Individual Outpatient Provider Initiated HIV Testing in Rural Uganda

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Abstract

In a sample of outpatients (152 females, 152 males) receiving individual provider-initiated HIV testing and counselling (PITC) we aimed to identify factors associated with subsequent uptake of partner HIV testing. Purposively sampled outpatients receiving PITC at a Ugandan hospital completed a questionnaire immediately prior to testing for HIV, and then at 3 and 6 months post-test. By 6-month follow-up 96% of participants reported disclosing their HIV test results to their partner and 96.4% reported asking their partner to test. 38.8% of women and 78.9% of men reported that their partner tested and they knew their results. Recent (men: AOR 5.84, 95.0% CI 1.90–17.99; women AOR 6.19, 95.0% CI 2.74–13.59) or any previous testing by the partner (women: AOR 4.01, 95% CI 1.06–15.10) predicted uptake of partner testing by the 6-month follow-up. Among women, perceiving greater social support from their partner, which perhaps reflects better relationship quality, was predictive of their male partner testing for HIV (AOR 2.37, 95% CI 1.22–4.58). Notably intimate partner violence showed no negative association with partner testing. Our findings demonstrate that women are at a disadvantage compared to men in their ability to influence their partner to test for HIV, and that improving social support in intimate relationships should be a focus of HIV partner testing interventions. However, more research on interventions to improve partner testing is needed, particularly in identifying effective ways to support women in engaging their partners to test.

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Keywords

Partner HIV Testing; sub-Saharan Africa; HIV prevention

INTRODUCTION

Globally, approximately 36.9 million people are living with HIV/AIDS (PLWH), almost half of whom do not know they have the disease (1). One of the goals of the Joint United Nations Programme on HIV/AIDS (UNAIDS) “90-90-90” goals is to have 90% of PLWH diagnosed and counseled by 2020 (2). HIV testing is an entry point into HIV care, treatment, and prevention services, and it is also key to achieving the other two 90-90-90 goals: 90% of PLWH on treatment and 90% of those virally suppressed by 2020. While HIV testing uptake has improved across sub-Saharan Africa, significant variation in progress across countries is evident, ranging from only 40% of PLWH having tested at least once in Burkina Faso to close to 90% in Rwanda (2, 3). Across the region as a whole, it is estimated that only 45% of PLWH are aware of their status (2). In Uganda, where HIV prevalence in the adult population remains high at 7.3% (4), an estimated 45% of men and 64% of women reported ever testing for HIV in 2011, compared to 21% of men and 25% of women in 2004–2005 (5). The use of a variety of testing approaches has increased access to HIV testing services in Uganda, including: facility-based Voluntary HIV Counselling and Testing (VCT) (or an opt-in approach), facility-based provider initiated HIV testing and counseling (PITC) (or an opt-out approach, in which testing is made a routine part of services), mobile community-based HIV testing, and home-based HIV testing (6). However, across Uganda more than half PLWH are still unaware of their status (4, 7).

In support of the 90-90-90 goals, the World Health Organization has included partner and couples testing as key approaches in their 2016 guidelines for HIV testing (8). Awareness of partner’s status can reduce risk of HIV transmission (5, 9–11) and risky sexual behavior such as inconsistent or no condom use, as well as increase the use of PrEP and preventative male circumcision (12–15). Increasing knowledge of partner’s HIV status is especially important in reaching the 90-90-90 goals, and for HIV prevention in Uganda and sub-Saharan Africa, as the primary mode of transmission is through heterosexual sex and partner serodiscordance is high (16). However, the 2011 Uganda AIDS Indicator Survey (AIS) data reported that only 29.8% of couples where one or both members were infected knew that their partner was infected with HIV (17).

Couples-based HCT, where couples test and are counseled together, may be one approach to increase knowledge of partner status. However, uptake remains low in Uganda (5, 18–20); a cohort study assessing uptake of PITC among 21,798 married individuals between 2003–2009 reported that uptake of couples-based testing remained consistently below 30% across the time period (18). Another common strategy to increase partner testing is to encourage individuals undergoing HCT to subsequently bring their partner to test for HIV. This approach is especially common during testing as part of antenatal care (ANC), but evidence for its effectiveness is mixed (12, 21). Further, in sub-Saharan Africa support for other interventions to encourage partner testing, such as delivering written invitations for testing to

partners, is limited (22). A number of social and structural barriers to couples-based facility testing have been identified including: male avoidance of health facilities generally, economic limitations (e.g. time off work, cost of transport), multiple and concurrent sexual partnerships, and fear of HIV stigma (16, 23–26). Facility factors can also hinder efforts to encourage partner testing. For example, a lack of private space in the facility and negative staff attitudes may dissuade male partner attendance, and VCT clinics often fail to address the needs of couples and men's reproductive health needs in particular (23, 27).

Given the challenge of increasing individuals' knowledge of their partners' HIV status, there is a need to understand factors associated with uptake of partner HIV testing in order to inform programming. Prior studies have most often been focused on barriers to testing for serodiscordant couples, and barriers for women to get their partners to test in the setting of ANC or other maternal health services; thus, there is a need for more research on barriers to partner testing in the general adult population for both men and women (18). The few studies that have examined facilitators of HIV testing found HIV-related partner communication and being in a serious committed relationship (18, 28, 29) to be associated with uptake of partner HIV testing. Among men, one study found that female partner HIV testing was associated with better perceived relationship quality (30). Despite the wide availability of testing options, male partner HIV testing is particularly challenging. Among males, uptake of clinic-based PITC remains low (20%) (31–33), and less than one third of male partners of pregnant women undergo individual and couples-based HCT (34–37). To help address these gaps in the literature and guide future interventions, our study aimed to identify factors associated with uptake of partner HIV testing among both women and men following individual PITC at a rural Ugandan hospital. We explore a number of individual and relationship factors, as well as behavioral factors such as disclosure and asking the partner to test for HIV.

METHODS

This prospective cohort study used baseline and follow-up data from a trial of a brief intervention to enhance sexual risk reduction counseling provided during individual PITC at a rural Ugandan public hospital in rural Uganda (38). The primary outcome of the intervention trial was risky sexual behavior. Outpatients receiving PITC at the hospital were non-randomly selected, screened for eligibility, and offered participation in the trial. The hospital provides free comprehensive HIV testing, care, and treatment services including antiretrovirals to those who are eligible according to the Ministry of Health guidelines. Study eligibility required being at least 18 years of age, not having tested for HIV within the prior 3 months, not having previously tested HIV positive, having had sexual contact within the prior 6 months, and not attending the clinic specifically for HIV testing. To ensure independence in the data only one member of a couple was allowed to participate. Written informed consent was obtained from participants; institutional review boards at Makerere University School of Public Health and Rhode Island Hospital approved the study protocol. Participants completed an interviewer-administered baseline questionnaire prior to testing and received PITC with rapid HIV testing according to Ministry of Health guidelines (39), which include recommendations and referrals for getting sexual partners tested (40, 41), with standard-of-care control counseling or intervention counseling. Participants returned 3

and 6 months later to complete follow-up interviews. Details about the intervention are discussed elsewhere (38). The present study uses data from the baseline and 3- and 6-month follow-up questionnaires. As noted in the results section below, all participants enrolled in the intervention trial were included in the present analysis unless they were missing follow-up data.

Measures

Baseline Questionnaire—For the current study, we used relevant measures from the baseline questionnaire: sociodemographics, if the participant had tested for HIV before, sexual partner concurrency, partner's history of HIV testing, intimate partner violence, power in sexual decision making, and social support from partner, as well as the participant's HIV test results. Questions about participant's home (construction materials, electricity) were used to categorize household wealth. We created three categories representing lowest, middle, and highest wealth. Sexual partner concurrency was defined as reporting more than one non-marital sexual partner or one or more non-marital sexual partners in addition to a marital partner in the 6 months preceding baseline. Partner's history of HIV testing was assessed with questions asking about the participant's knowledge of their partner's history of HIV testing, date of the test, and the results of the test. A partner's prior history of HIV testing was operationalized as the participant's knowledge of whether his/her partner had tested for HIV and the test results categorized into three categories: tested within the prior 2 years, tested more than 2 years ago, and never tested/does not know status. Since knowledge of partner's HIV status is crucial to protecting oneself from HIV, if the participant reported that their partner had tested but they did not know the result of the test, their partner was categorized as "never tested/participant does not know partner's status." Similarly, if the participant did not know if their partner had tested for HIV, the partner's HIV testing history was categorized as "never/does not know status."

Experience of intimate partner violence (IPV) perpetrated by their current partner "ever" was assessed using a measure adapted from the WHO violence against women instrument (42) to be applicable to both genders. The IPV instrument asks about experience of emotional IPV, 4 items (e.g., *Has he/she ever insulted you or made you feel bad about yourself?*); physical IPV, 6 items (e.g., *Has he/she ever slapped you or thrown something at you that could hurt you?*); and sexual IPV, 2 items (e.g., *Has he/she physically forced you to have sexual intercourse when you did not want to?*). Power in Sexual Decision Making was assessed with the items from the *refusal* and *pregnancy-STD prevention* subscales from the Sexual Assertiveness Scale (SAS) (43) adapted to be applicable to both genders; $\alpha=0.81$ among males and $\alpha=0.88$ among females in the present sample. The adapted SAS included 6 questions with responses on a 5 point (0 strongly disagree to 4 strongly agree) scale. A sample item is "You have sex if your partner wants you to, even if you don't want to." The mean of all items was calculated and higher scores indicated more power in sexual decision making. Social support from the partner was measured with the Positive Social Support Scale (44); internal reliability in this sample was $\alpha=0.75$ among males, $\alpha=0.86$ among females. The social support scale included 7 questions such as: "How much does your spouse or boyfriend/girlfriend provide you with encouragement in things you want to do?" Response options ranged from (0) not at all to (4) a lot. Responses were reverse scored, the

mean of the 7 items was calculated and higher scores indicated more social support from the partner.

Follow-up Questionnaires—From the 3- and 6-month follow-up questionnaire we used items assessing if, since baseline, participants disclosed their HIV test results to their partner, if they asked their partner to test for HIV, if they offered to go for couples HTC, if their partner tested for HIV, and the results of the partner's test. For the analysis, if participants indicated yes to these questions at either 3- or 6-month follow-up or both, they were coded as "yes" for that particular question, reflecting that it occurred between baseline and 6-month follow-up. The study outcome of uptake of partner HIV testing was dichotomous; yes/no with "yes" indicating that the partner had tested between baseline and 6-month follow-up and the participant knew the test results. The "no" category included reporting that their partner had not tested or not knowing if their partner tested between baseline and 6-month follow-up. Lastly, from the 6-month questionnaire, we also ascertained if a participant reported IPV perpetrated by their partner between baseline and follow-up. This used the WHO instrument (42) noted above with the reference time period of "since the first interview/ prior 6 months." If at any assessment a participant reported IPV the interviewer referred them to the onsite HIV counselor who was trained in counseling for IPV; however, we did not track uptake of these referrals.

Data Analysis Approach—Since gender dynamics, especially with regard to women's ability to get their partner to test for HIV, are highly relevant in this context we expected strikingly different findings by gender; therefore, we ran separate models for males and females. We used bivariate logistic regressions in SPSS version 23 (45) to initially examine relationships between potential predictor variables and our outcome of uptake of partner HIV testing, as well as to identify potential covariates. We tested associations between the variables noted in the measures section and the study outcome of uptake of partner HIV testing by 6-month follow-up. Variables found to be associated with the outcome at $p < 0.10$ were included in an initial multivariable logistic regression model predicting the outcome. For the final model, we then trimmed non-significant ($p > 0.05$) predictors or covariates to yield the most parsimonious model. To control for differences by study arm from the original study we include study arm as a covariate in all analyses.

RESULTS

The parent study enrolled 333 participants (165 males, 168 females). For the present analysis we excluded 8 males and 9 females because they were lost at both the 3- and 6-month follow-ups. Additionally we excluded 5 males and 7 females who completed the 3-month follow-up and reported that their partner did not test by the 3-month follow-up but were lost to follow-up at 6 months and thus we were unable to unequivocally determine whether or not their partner tested between baseline and 6-month follow-up. Our analytic sample therefore consisted of 304 participants (152 males and 152 females). The sample participant sociodemographic characteristics and baseline and follow-up descriptive statistics are presented in Table 1. At baseline, the majority of both men (78.3%) and women (88.8%) had previously tested for HIV, but fewer knew their partner's HIV status: 65.1% of men and 38.8% of women. At baseline 65.8% of women and 42.1% of men reported ever

experiencing IPV (emotional, physical, or sexual) perpetrated by their current partner. Specifically, at baseline 47.4%, 35.5%, and 48.0% of women and 20.4%, 8.6%, and 32.9% of men reported ever experiencing sexual, physical, and emotional IPV respectively perpetrated by their current partner. More than half of women (58.6%) and 38.8% of men reported experiencing IPV between baseline and 6-month follow-up, specifically, 33.6%, 13.2%, and 42.8% of women and 12.2%, 2.7%, and 35.4% of men, reported sexual, physical, and emotional IPV respectively. As shown in the lower portion of Table 1, the vast majority of men and women reported disclosing their HIV test results to their partner (men: 97.4%, women: 96.0%) and asking their partner to test for HIV (men: 98.0%, women: 96.7%) at between baseline and 6-month follow-up. Separating disclosure by HIV test results, the vast majority still disclosed (men HIV-negative: 99.3%; men HIV-positive: 70.0%; women HIV-negative: 97.1%; women HIV-positive: 84.6%). Over 80% also reported asking their partner to go for couple HIV testing and counseling (men: 84.9%, women: 89.9%). A large percentage of men (78.9%) reported that their female partner tested for HIV between the baseline and 6-month follow-up and that they knew the results. However, the percentage of women reporting that their male partner tested (38.8%) was much lower. Of partners who tested about two-thirds tested by the 3-month follow-up (among male participants 61.7%, among female participants 62.7%). Among those whose partners tested, nearly universally the participant had disclosed his/her status to the partner. In only 2 cases (among a total of 175 partners who tested) had the participant not disclosed to their partner (2 males who were positive); in all other categories, for all partners who tested, the participant had disclosed to their partner.

As shown in Table 2, in our bivariate analysis among both men and women, compared to partners who had never tested for HIV, the odds of partner testing by 6-month follow-up were greater among partners who had tested within the prior 24 months (men: OR 4.82, 95% CI 1.74–13.40; women: OR 5.71, 95% CI 2.65–12.30). Among women, those who perceived greater positive social support from their partner had higher odds that their partner tested by 6-month follow-up (OR 2.24, 95% CI 1.24–4.13). All other variables examined were not associated with the partner testing for HIV between baseline and 6-month follow-up at $p = 0.10$, including: age, education, marital status, religion, wealth category, travel time to clinic, study arm, participant's HIV test results, partner concurrency, the participant's HIV testing history, history of IPV perpetrated by the partner, power in sexual decision making, and offering to go for couples counseling and testing.

In the multivariable model including all effects from bivariate models that were associated with partner HIV testing at $p = 0.10$ and controlling for study arm, the effect of partner's prior HIV testing remained statistically significant for men and women and positive social support remained statistically significant for women (see Table 3). Among men, compared with those whose partners had never tested for HIV, the odds of the partner testing by 6-month follow-up were more than five and a half times greater among those who had tested within the prior 24 months (adjOR 5.84, 95% CI 1.90–17.99). Similarly, among women, compared with those whose partners had never tested for HIV, those who had tested within the prior 24 months had more than six times greater odds to test by 6-month follow-up (adjOR 6.19, 95% CI 2.74–13.59) and partners who had tested more than 24 months ago had four times greater odds of testing by 6-month follow-up (adjOR 4.01, 95% CI 1.06–15.10). Among women,

positive social support from the partner had a strong effect; each one-point increase (on a 1–4 scale) in their mean score on positive social support was associated with 2.37 times increased odds that the partner tested for HIV by 6-month follow-up (adjOR 2.37, 95% CI 1.22–4.58). We examined whether the effect of positive social support on partner HIV testing varied based on whether the partner had previously tested for HIV or not (ever vs. never). We found no modifying effect of partner HIV testing history on the effect of positive social support on promoting uptake of partner HIV testing by 6-month follow-up (adjOR 1.64, 95% CI 0.55–4.93, χ^2 0.78, $p=0.38$). This indicates that among women, positive social support from the partner was an equally strong predictor of the male partner testing irrespective of whether the partner had previously tested for HIV.

We also investigated whether there were differences in predictors of uptake of partner testing at 3- and 6-month follow-up; however, we did not observe any differences, which may have been in part because the majority of participants' partners who went for HIV testing did so by the 3-month follow-up. Finally, we examined whether disclosing the HIV test results, asking the partner to test, or the partner testing for HIV was associated with reporting any IPV between baseline and the 6-month follow-up. None of these behaviors was significantly associated with IPV. Furthermore, there were no statistically significant differences in IPV at follow-up by the participant's serostatus.

DISCUSSION

In our sample of men and women receiving individual PITC at a Ugandan outpatient hospital, nearly all men and women reported disclosing their HIV test results to their partner and asking their partner to go to the clinic to be tested. The majority of men (78.9%) reported that their partner tested for HIV between baseline and the 6-month follow-up, while significantly fewer women (38.8%) reported that their partners tested by the 6-month follow-up. Engaging men in HIV testing has emerged as a major issue for HIV/AIDS control in sub-Saharan Africa, with men less likely to accept HCT compared to women in Uganda and similar settings (4, 46–49). Our findings highlight this challenge, particularly for female partners, and add to a large literature that demonstrates women's reduced influence in reproductive health decisions generally (50–52), including influencing male partners to test for HIV (23, 32, 35, 53).

These findings mimic our previous qualitative work in this same Ugandan clinical setting; despite women's interest in getting their partners to test, women expressed difficulty in convincing them to do so (54, 55). Consistent with other research in Uganda (35), in our prior qualitative work, both men and women cited men's fear of HIV stigma, of losing sexual partnerships if testing positive, and feeling the clinic was a place for women and not men as major barriers to male testing (54, 55). The gender disparities observed in the present study in getting partners to test may also be a result of upstream cultural norms related to men's higher social status. In intimate relationships, such norms translate into inequities in decision-making power and influence in sexual relationships favoring men (11). Although power in sexual decision-making and IPV were not associated with partner testing in our study, high prevalence of IPV among women (65.8%) may be an indicator of gender inequitable relationships and women's reduced sexual decision-making in this context (56).

Relatedly, a growing literature in Uganda suggests that prevailing masculine ideologies, idealizing strength, resilience, and sexual prowess, are a major barrier to male involvement in HIV services (47, 57–59). Future research should explore masculinity as it relates specifically to women's influence in male partner testing.

It is notable that despite high prevalence of experiencing IPV among women, which is consistent with other data from Uganda (60, 61), history of IPV was not negatively associated with uptake of partner testing. We examined this association for recent (12 months prior to baseline) IPV and similarly there was no association and we also examined types of IPV (emotional, physical, sexual) separately and the results did not differ from the results when the three types of IPV were combined (results not shown). Furthermore, disclosing their results to their partner, asking their partner to test, and partner testing did not result in an increased risk of IPV between baseline and follow-up even when examined separately by the participant's HIV status. This is contrary to a number of studies from sub-Saharan Africa showing negative outcomes among women after disclosure of test results including IPV (62, 63). These seemingly discrepant findings may arise because most studies that report negative IPV-related outcomes from HIV status disclosure do not control for history of IPV. Furthermore, the methods used for assessing IPV resulting from disclosure often do not ascertain whether the IPV was related to the disclosure or to other issues. A study in Uganda which looked at home-based antiretroviral care found that where IPV occurred after testing and engagement in care, IPV previously existed in the relationship and the disclosure/accessing care was not necessarily the trigger (64). Clearly, however, more research is needed to ascertain whether disclosure specifically increases the risk for IPV and, if so, under what circumstances.

This study took place during individual PITC, a common approach to HIV testing in Uganda and throughout sub-Saharan Africa, with known public health benefits (65, 66). However, our findings highlight the limitations of individual PITC in reaching the partners of those testing. Prior studies have found limited support for the effectiveness of women providing a verbal or written invitation to males in engaging men in testing (12, 21, 32, 67). It is encouraging that nearly the entire sample of both males and females reported disclosing their test results (Men: 97.4%, Women: 96.0%) and asking their partner to test (Men: 98.0%, Women: 96.7%) within 6 months of PITC. However, the low proportion of male partners testing in response to their female partner's request suggests simply asking is not always enough to influence women's male partners. These findings reinforce the need to create inclusive HCT programs that involve both the male and female partner. HCT is commonly segregated by gender for clinical reasons, and because women nearly universally receive testing in ANC, the burden often falls on women to engage their partners to test (32, 53). Couples-based testing and programs that engage men are especially important in settings where men have more decision-making power in a couple's prevention behaviors (5, 68), but more research is needed on effective ways to increase male partner testing.

Perceiving positive social support from the male partner was a positive predictor of females getting their partners to test for HIV. Prior research in Uganda has demonstrated relationship characteristics such as respect, trust, and communication as influencing male partner testing (23, 35, 69). This finding suggests interventions focused on improving relationship

dynamics, such as social support and communication skills, may be an effective approach in this setting. Prior interventions have demonstrated that improving partner communication and shared decision making can increase male involvement in reproductive health matters (70, 71). While this approach should be explored further in the context of partner testing, it is worth noting that structural barriers to getting both partners to test likely exist (5, 10, 23, 47, 72), and even in healthy relationships, may be too great to allow them to visit a clinic. While health system factors were not explored in this study, in our prior qualitative work, structural barriers were a major issue for men, who felt money, transportation, and work responsibilities were too great to visit the clinic (54). Future work should consider multi-level approaches to partner testing, focusing not only on interpersonal factors, but also on structural and health-system level factors such as partner HIV self-testing to help overcome structural challenges.

Limitations

This study has a number of limitations. Firstly, we non-randomly sampled individuals presenting to the outpatient clinic and limited enrollment to those meeting the eligibility criteria for participation, which limits the generalizability of our findings outside of our study context. Further, items included in the questionnaire relied on self-report and focused on HIV risk and other stigmatized behaviors, which could have led to biased responses. Because this was an individual not couples-based study, we could not verify the accuracy of participants' reports of their partner's HIV testing or results. Finally, our sample size may have limited our power to detect hypothesized associations.

Conclusion

Our findings highlight gender disparities in men and women's ability to influence their partner to test for HIV, with women at a disadvantage. Disclosure of HIV test results to partners and subsequent partner testing are a major element of HIV/AIDS prevention in Uganda. Especially important in cases of serodiscordance, disclosure and partner testing can reduce the likelihood of HIV transmission between partners through the provision of HIV prevention services and treatment (5, 9–14). Moreover, partner testing can ensure both partners are able to access life-saving HIV treatment in a timely manner, which may be especially difficult for women without their partners' support (73, 74). Our findings suggest that improving social support in intimate relationships should be a focus of HIV partner testing interventions. More research on interventions to improve partner testing is needed, particularly in identifying effective ways to encourage couples-based testing and to support women in engaging their partners to test.

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Table 1

Participant Characteristics and Descriptive statistics at Baseline and Follow-up

	Males N=152			Females N=152		
	Number (%)	Mean (SD)	Range	Number (%)	Mean (SD)	Range
Baseline Descriptive Statistics						
Age		35.20 (10.86)	20–79		32.54 (8.93)	20–61
Education						
Advanced Secondary or >	23 (15.1)			8 (5.3)		
Secondary	43 (28.3)			38 (25.0)		
Primary or <	86 (56.6)			106 (69.7)		
Marital Status						
Married	127 (83.6)			139 (91.4)		
Not married	25 (16.4)			13 (8.6)		
Religion						
Muslim	60 (39.5)			65 (42.8)		
Catholic	55 (36.2)			48 (31.6)		
Christian-Other	37 (24.3)			39 (25.7)		
Wealth						
Highest	27 (17.8)			23 (15.1)		
Middle	87 (57.2)			92 (60.5)		
Lowest	38 (25.0)			37 (24.3)		
Travel time to the clinic (minutes)		64.08 (46.41)	5–180		61.81 (47.27)	1–210
HIV test results						
Positive	10 (6.6)		14 (9.2)			
Negative	142 (93.4)		138 (90.8)			
Concurrence						
2 or more concurrent partners	51 (33.6)			13 (8.6)		
No Concurrence	101 (66.4)			139 (91.4)		
Participant's HIV testing history						
Previously tested	119 (78.3)			135 (88.8)		
Never tested	33 (21.7)			17 (11.2)		

	Males N=152			Females N=152		
	Number (%)	Mean (SD)	Range	Number (%)	Mean (SD)	Range
Partner's HIV testing history						
Tested within prior 24 mo.	73 (48.0)			46 (30.3)		
Tested > 24 mo. ago	26 (17.1)			13 (8.6)		
Never tested/ does not know status ^I	53 (34.9)			93 (61.2)		
History of IPV perpetrated by partner						
Ever	64 (42.1)			100 (65.8)		
Never	88 (57.9)			52 (34.2)		
Power in Sexual Decision Making		2.47 (0.92)	0–4		2.10 (1.04)	0–4
Positive Social Support from partner		3.17 (0.46)	1.43–4		2.94 (0.61)	1–3.86
Follow-up descriptive statistics						
Disclosed HIV results to partner						
Yes	148 (97.4)			144 (96.0)		
No	4 (2.6)			6 (4.0)		
Asked partner to test						
Yes	148 (98.0)			145 (96.7)		
No	3 (2.0)			5 (3.3)		
Offered to go for couples HIV testing						
Yes	124 (84.9)			129 (89.9)		
No	22 (15.1)			16 (11.0)		
Partner tested between baseline and 6 month follow up						
Yes	120 (78.9)			59 (38.8)		
No/don't know ^I	32 (21.1)			93 (61.2)		
Timing of uptake of partner HIV testing						
By 3 month follow-up	74 (48.7)			37 (24.3)		
Between 3–6 month follow-up	35 (23.0)			19 (12.5)		
By 6 month follow-up, missing at 3 months	11 (7.2)			3 (2.0)		
Did not test/don't know ^I	32 (21.1)			93 (61.2)		
Couple HIV serostatus						
Concordant positive	5 (3.3)		2 (1.3)			

	Males N=152			Females N=152		
	Number (%)	Mean (SD)	Range	Number (%)	Mean (SD)	Range
Concordant negative	109		54			
Serodiscordant	(71.7)		(35.5)			
Partner not tested	6 (3.9)	32 (21.1)	3 (2.0)	93 (61.2)		
Experienced any IPV between baseline and 6 month follow up						
Yes	57 (38.8)		89 (58.6)			
No	90 (61.2)		63 (41.4)			

Notes:

This category includes: participant reporting that their partner had not tested, that their partner had tested but they did not know the results, or that they did not know if their partner had tested.

Table 2
Bivariate Associations with uptake of partner HIV testing between baseline and 6 month follow-up

	Males n=152			Females n=152		
	OR (95% CI)	χ^2	p	OR (95% CI)	χ^2	p
Age	1.03 (0.99–1.07)	1.60	0.21	0.98 (0.95–1.02)	0.73	0.39
Education		3.21	0.07		0.10	0.95
Secondary or >	1.24 (0.41–3.73)			0.91 (0.21–4.03)		
Some Secondary	2.61 (0.91–7.47)			0.89 (0.41–1.91)		
Primary or < (ref.)						
Marital Status		2.10	0.15		1.32	0.25
Married	2.02 (0.78–5.23)			0.51 (0.16–1.61)		
Not married (ref.)						
Religion		1.19	0.55		3.99	0.14
Muslim	0.77 (0.26–2.28)			1.04 (0.47–2.32)		
Catholic	0.57 (0.20–1.61)			0.48 (0.20–1.18)		
Christian-Other (ref.)						
Wealth		0.81	0.67		2.94	0.23
Highest	1.78 (0.49–6.54)			1.74 (0.57–5.26)		
Middle	1.11 (0.45–2.74)			2.08 (0.90–4.78)		
Lowest (ref.)						
Travel time to clinic	1.01 (0.99–1.02)	1.75	0.19	1.00 (0.99–1.01)	0.08	0.77
Study Arm		1.47	0.23		0.01	0.91
Intervention	1.63 (0.74–3.57)			1.04 (0.54–1.99)		
Control (ref.)						

	Males n=148			Females n=151		
	OR (95% CI)	χ^2	p	OR (95% CI)	χ^2	p
HIV test results		0.51	0.48		1.86	0.17
Positive	0.60 (0.15–2.46)			0.40 (0.11–1.50)		
Negative (ref.)						

	Males n=152			Females n=152		
	OR (95% CI)	χ^2	p	OR (95% CI)	χ^2	p
Partner Concurrency						
Yes	2.07 (0.83– 5.17)	2.41	0.12	0.98 (0.31– 3.16)	0.00	0.98
No (ref.)						
Participant's HIV testing history						
Previously tested	1.27 (0.81– 3.16)	0.26	0.61	1.19 (0.41– 3.40)	0.10	0.75
Never tested (ref.)						
Partner's HIV testing history						
Tested within prior 24 mo.	4.82 (1.74– 13.40)	12.69	0.002**	5.71 (2.65– 12.30)	20.02	<0.001**
Tested > 24 mo. ago	0.69 (0.26– 1.85)			2.61 (0.80– 8.56)		
Never tested (ref.)						
History of IPV perpetrated by partner						
Ever	0.78 (0.36– 1.71)	0.38	0.54	1.31 (0.65– 2.63)	0.59	0.44
Never (ref.)						
Power in Sexual Decision Making	1.01 (0.66– 1.54)	0.00	0.98	1.05 (0.77– 1.44)	0.10	0.76
Positive Social Support from partner	1.48 (0.65– 3.35)	0.88	0.35	2.24 (1.22– 4.13)	6.68	0.01**
Offered to go for couples HIV testing						
Yes		1.96	0.16		1.62	0.20
No (ref.)		2.05 (0.75– 5.60)			2.16 (0.66– 7.06)	

Note:

*
p <0 .05;**
p <0.01.

OR = Odds Ratio, ref.: Reference category

Table 3
Final multivariable model predicting uptake of partner HIV testing between baseline and 6 month follow-up

	Males n=148			Females n=151		
	AOR (95% CI)	χ^2	p	AOR (95% CI)	χ^2	p
Study Arm						
Intervention	1.95 (0.81–4.71)	2.23	0.14		0.00	0.97
Control (ref.)				1.02 (0.48–2.17)		
Partner's HIV testing history		9.47	0.002**		19.28	<0.001**
Testing within prior 24 mo.	5.84 (1.90–17.99)**			6.19 (2.74–13.59)**		
Tested > 24 mo. ago	0.68 (0.24–1.90)			4.01 (1.06–15.10)*		
Never tested (ref.)						
Positive Social Support from Partner	2.14 (0.80–5.75)	2.27	0.13	2.37 (1.22–4.58)	6.49	0.011**

Note:

* p<0.05,

** p < .01,

AOR = Adjusted Odds Ratio, ref.: Reference category