

Relationship Power and Sexual Violence Among HIV-Positive Women in Rural Uganda

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Abstract Gender-based power imbalances place women at significant risk for sexual violence, however, little research has examined this association among women living with HIV/AIDS. We performed a cross-sectional analysis of relationship power and sexual violence among HIV-positive women on anti-retroviral therapy in rural Uganda. Relationship power was measured using the Sexual Relationship Power Scale (SRPS), a validated measure consisting of two subscales: relationship control (RC) and decision-making dominance. We used multivariable logistic regression to test for associations between the SRPS and two dependent variables: recent forced sex and transactional sex. Higher relationship power (full SRPS) was associated with reduced odds of forced sex (AOR = 0.24; 95 % CI 0.07–0.80; $p = 0.020$). The

association between higher relationship power and transactional sex was strong and in the expected direction, but not statistically significant (AOR = 0.47; 95 % CI 0.18–1.22; $p = 0.119$). Higher RC was associated with reduced odds of both forced sex (AOR = 0.18; 95 % CI 0.06–0.59; $p < 0.01$) and transactional sex (AOR = 0.38; 95 % CI 0.15–0.99; $p = 0.048$). Violence prevention interventions with HIV-positive women should consider approaches that increase women's power in their relationships.

Keywords Relationship power · Sexual violence · Transactional sex · HIV/AIDS · Africa

Introduction

Globally, sexual violence is a pervasive public health problem with significant consequences for women's physical, sexual, mental, and reproductive health [1–3]. Sexual violence is typically defined as a range of experiences that compel a person to have sex against their will through the use of violence, threats, verbal insistence or pressure, deception, and cultural expectations that have social or physical consequences if the person refuses—which includes forced sex (i.e., rape) and more subtle forms of coercion [2]. Among HIV-positive women, violence is related to declines in HIV-related health including greater risk of virologic failure [4], lower CD4+ T-lymphocyte cell counts [5], and greater risk of mortality [6].

An estimated 30–59 % of women in East Africa have ever experienced sexual violence over their lifetimes [7, 8]. Some scholars argue that the definition of sexual violence should be expanded to include a broader array of behaviors such as transactional sex [9]—or the exchange of money,

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goods, or services for sex. Although the motivations for transactional sex are complex [10, 11] and may originate either from women's agency or lack of agency [12–14], one perspective holds that transactional sex belongs to a cluster of violent and risky sexual practices related to gender norms around masculinity [14–17]. In Uganda, for example, women describe the receipt of money and gifts as a form of sexual coercion which constrains their ability to negotiate safer sex, thus allowing male partners to dictate the terms of the sexual encounter [9]. In East Africa, around three-fourths of young women report receiving money or material goods in exchange for sex [18, 19]. These economic transfers from men to women have been linked to unprotected sex [10, 19, 20] and HIV seropositivity [21].

A key factor related to women's experience of sexual violence and transactional sex is gender-based power imbalances within sexual relationships [22, 23]. According to the theory of gender and power, three social structures of labor, power, and social norms interact to create risk factors for and exposures to sexual violence [24, 25]. Thus, women with low relationship power have limited control over the timing and frequency of sex, and negotiating power over safer sex [23, 26, 27]. Similarly, regarding transactional sex, the theory proposes that women living in poverty may be coerced into sex due to competing survival needs [28]. Indeed, a qualitative study on food insecurity in Uganda showed that HIV-positive women felt compelled to engage in transactional sex with men to provide food for themselves and their children [29]. Other studies have documented a consistent association between food insecurity and women's risky sexual behavior in resource-limited settings including those in sub-Saharan Africa [30–34].

Given the potential for HIV transmission, studies of relationship power and intimate partner violence have focused on samples that include or consist of HIV-negative individuals at risk [35]. Little research has examined this association among entire samples of HIV-positive women, who have higher rates of violence and poverty than their HIV-negative counterparts [36–38] and are highly susceptible to stigma, discrimination, and poor physical and mental health as a consequence of their HIV status [39–41]. These co-occurring epidemics of psychosocial problems, often termed syndemics [42], may interact in ways that synergistically worsen health disparities between HIV-positive and negative individuals [43, 44], with the potential to further spread the HIV virus to children and men. Therefore, we sought to examine the association between relationship power and two variables, forced sex and transactional sex, among HIV-positive women in Uganda. We hypothesized that higher relationship power would be protective against both forced sex and transactional sex.

Methods

Study Procedures

The data come from the Uganda AIDS Rural Treatment Outcomes (UARTO) study, an ongoing prospective cohort study on HIV medication adherence that started in 2005. Participants were recruited from the Mbarara Regional Referral Hospital Immune Suppression Syndrome (ISS) Clinic, which dispenses free HIV antiretroviral therapy (ART) to HIV-positive individuals living in southwestern Uganda. To be eligible, participants had to be ART-naïve and on ART, older than 18 years of age, and living within 20 km of the ISS clinic. Study participants had their blood drawn for CD4+ count and HIV viral load tests and completed a survey every 3 months (quarterly). Trained research assistants conversant in the local language (Runyankole) administered the surveys through face-to-face interviews in private rooms of the ISS clinic. In August 2007, the survey was modified for a sub-study to include measures on relationship power, intimate partner violence, stigma, social support, health behaviors, and food security [45]. We performed a cross-sectional analysis using baseline data on all female participants from the sub-study (i.e., women who were enrolled into the cohort after the relationship power and other measures were introduced). Written informed consent was obtained for all participants. The Institutional Review Boards of the Mbarara University of Science and Technology (reference number MUIRC 1/7), University of California San Francisco (reference number 007816), and Partners Healthcare (reference number 2009-P-000669/3) approved the study. Consistent with national guidelines, clearance was obtained from the Uganda National Council for Science and Technology (reference number HS309) and the research secretariat in the Office of the President.

Measures

Our explanatory variable, relationship power, was measured using the Sexual Relationship Power Scale (SRPS) [46]. The SRPS is a theoretically-based and validated measure of power within a sexual relationship that has been extensively used in sub-Saharan Africa [35]. The SRPS contains two subscales: relationship control (RC) and decision-making dominance (DMD). The RC subscale consists of 14 questions that assess women's sexual and emotional autonomy (e.g., "If I asked my partner to use a condom, he would get angry.") based on a 4-point Likert scale ranging from Strongly Agree [1] to Strongly Disagree [4]. The DMD subscale consists of 8 questions that assess decision-making power within the relationship (e.g., "Who usually has more say on whether you have sex?").

Response options were: “Your partner” [1], “Both of you equally” [2], and “You” [3]. The relationship power questions were asked in reference to the participant’s current intimate relationship or most recent intimate relationship (for women without partners). For the full SRPS scale and two subscales, we created three variables by summing responses and then normalizing the scale to a range of 1–4 (range for full SRPS: 1.88–3.88; range for RC subscale: 1.23–4; range for DMD subscale: 1–4). Higher scores indicated greater relationship power. In our study, the scale demonstrated excellent internal reliability (RC: Cronbach’s $\alpha = 0.87$; DMD: $\alpha = 0.84$; Full SRPS: $\alpha = 0.89$).

Our dependent variable, recent sexual violence, was measured with two separate variables: a history of forced sex and transactional sex in the prior 3 months. While the SRPS statements were asked about a current or recent intimate partner, the sexual violence questions were asked about experiences with any male partner in the past 3 months. Forced sex was a binary variable captured by asking respondents, “In the past 3 months, did someone such as your spouse, partner or anyone else ever force you to have sex when you did not want to? By force, I mean either using physical force or threatening to harm you physically or emotionally?” (yes/no). While not specifically validated for use in the study setting, its construct validity is supported by a recent study from Uganda showing a longitudinal relationship between forced sex and subsequent development of psychological distress (and no reciprocal association between psychological distress and subsequent victimization) [45]. Transactional sex was a binary variable captured with four items that asked respondents about whether they had sex in exchange for food, cash/consumer goods, a place to stay, or a job. For example, respondents were asked, “In the past 3 months, have you ever had sex or engaged in a sexual relationship with a partner because he provided you or you expected that he provide you with food?” (yes/no). Respondents who answered yes to any of the four questions were considered to have engaged in some form of transactional sex.

In accordance with the background literature on sexual violence in Uganda [9, 29, 47], we considered several behavioral variables in our models as potential confounders: a binary variable for hazardous drinking of alcohol as measured using the three-item consumption subset of the Alcohol Use Disorders Identification Test (AUDIT-C) (range: 0–7; [48, 49]), social support as measured by the 10-item Functional Social Support Questionnaire (Cronbach’s $\alpha = 0.92$; range: 1.5–4; [50, 51]), and a binary variable for any food insecurity as measured by an adapted version of the 9-item Household Food Insecurity Access Scale (range: 0–27; [52, 53]). We also considered age, being married, education level, household

asset wealth [54], and current unemployment as potential confounders in the multivariate models.

Statistical Analysis

We fitted logistic regression models to test for bivariate associations between our primary explanatory variable (relationship power, i.e., full SRPS scale) and all covariates (demographic and behavioral variables), and the two dependent variables (recent forced sex and transactional sex). For the multivariable logistic regression models, we included relationship power and adjusted for variables previously found to be significant at the $p < 0.25$ level in the bivariate analysis [55]. We repeated these analyses using the RC and DMD subscales of the SRPS as explanatory variables to evaluate whether the two domains were differentially associated with the two dependent variables. Missing data were less than 6.5 % on any given variable (less than 2 % for most variables). All analyses were performed using Stata 13.

Results

Among the 325 eligible women, 307 completed the baseline SRPS survey (95 %). As shown in Table 1, the mean age was 33.7 (SD = 7.8; range: 19–75), and the majority of women had a primary school education or less (75.6 %) and were unmarried (61.3 %). The mean CD4+ cell count was 238.8 (SD = 149.3; range: 2–862). For relationship power, the mean scores were 2.5 for the full SRPS (SD = 0.5; range: 1–4), 2.6 for the RC subscale (SD = 0.5; range: 1–4), and 1.8 for the DMD subscale (SD = 0.5; range: 1–4). Of the 307 women, 13.0 % had ever experienced forced sex in their lifetime, and 3.9 % had reported forced sex in the previous 3 months. Similarly, 18.6 % of the women had ever engaged in transactional sex in their lifetime, and 6.5 % had engaged in transactional sex in the previous 3 months.

In the bivariate analysis, higher sexual relationship power (full SRPS) was associated with reduced odds of recent forced sex (OR = 0.25; 95 % CI 0.08–0.78; $p = 0.017$; Table 2) and reduced odds of recent transactional sex (OR = 0.36; 95 % CI 0.15–0.88; $p = 0.025$; Table 3). After controlling for covariates in the multivariable regression models, the association between relationship power and recent forced sex remained statistically significant (AOR = 0.24; 95 % CI 0.07–0.80; $p = 0.020$; Table 2). In adjusted analyses, the association with recent transactional sex was strong and in the expected direction, but not statistically significant (AOR = 0.47; 95 % CI 0.18–1.22; $p = 0.119$; Table 3). The adjusted analyses also showed that the odds of recent forced sex were higher for

Table 1 Baseline characteristics for the cohort of 307 HIV-positive women from rural Uganda

Variable	Mean (SD)	Median (IQR)	%	N
Socio-demographic characteristics				
Age (years)	33.7 (7.8)	33.5 (28.0–38.2)		302
Education level				302
None			18.6	
Primary school			57.0	
Secondary school or higher			22.8	
Household asset index score	0.01 (2.1)	−0.3 (−1.5 to 1.3)		288
Unemployed			34.2	301
Married			38.7	302
Household size	3.2 (2.6)	3 (1–5)		301
Social and behavioral variables				
Hazardous drinking (AUDIT-C)			5.9	292
Social support scale score	3.7 (0.5)	3.9 (3.5–4)		307
Stigma (AIDS-related stigma scale)	1.5 (1.7)	1 (0–2)		294
Food insecure			75.9	301
Clinical variables				
WHO clinical stage IV			30.9	304
CD4+ count	238.8 (149.3)	207 (138–303)		293
Sexual relationship power				
Sexual relationship power (SRPS), full scale score	2.5 (0.5)	2.5 (2.1–2.9)		307
Decision-making dominance (DMD), subscale score	1.8 (0.5)	1.9 (1.4–2.3)		307
Relationship control (RC), subscale score	2.6 (0.5)	2.8 (2.3–2.9)		307
Sexual violence				
Forced sex in past 3 months			3.9	307
Transactional sex in past 3 months			6.5	307

SD standard deviation, *IQR* Inter-quartile range, *AUDIT* Alcohol Use Disorders Identification Test

married versus unmarried women (AOR = 3.78; 95 % CI 1.04–13.72; $p = 0.043$; Table 2) and for hazardous drinkers versus non-hazardous drinkers (AOR = 6.69; 95 % CI 1.38–32.50; $p = 0.018$; Table 2). The odds of recent transactional sex were also higher for hazardous drinkers (AOR = 4.76; 95 % CI 1.42–15.99; $p = 0.011$; Table 3).

When we fit separate multivariable models for the two SRPS subscales, we found that the association between recent sexual violence and RC was stronger and of a larger magnitude compared with the association between recent sexual violence and either DMD or the full SRPS. In the multivariable models, higher RC was associated with reduced odds of forced sex (AOR = 0.18; 95 % CI 0.06–0.59; $p < 0.01$; Table 2) and reduced odds of transactional sex (AOR = 0.38; 95 % CI 0.15–0.99; $p = 0.048$; Table 3), but confidence limits did not exclude small or extremely large values. The DMD subscale did not have a statistically significant association with recent forced sex (AOR = 0.50; 95 % CI 0.15–1.63; $p = 0.248$; Table 2) or transactional sex (AOR = 0.73; 95 % CI 0.29–1.83; $p = 0.505$; Table 3). With regard to magnitude of the associations, a change from the lowest value of the SRPS

[1] to the highest value of the SRPS [4] resulted in a change in the predicted probability of forced sex from 19 to 0 %. When computed for the RC subscale, the predicted probability of forced sex was 28 % at the lowest value of RC and 0 % at the highest value of RC. Similarly, a change from the lowest value to the highest value of the SRPS resulted in a change in the predicted probability of transactional sex from 16 to 2 %. When computed for the RC subscale, the change in the predicted probability of transactional sex was 21 % at the lowest value of RC and 2 % at the highest value of RC.

Discussion

Although it has been demonstrated that women with lower relationship power are more likely to experience violence and are at greater risk of HIV acquisition [25, 56, 57], few studies explicitly examine this association among women living with HIV. In this study, we found a strong protective effect of relationship power on recent experience of forced sex and transactional sex among HIV-positive

Table 2 Logistic regression model for the association between relationship power and recent forced sex among HIV-positive women in rural Uganda (N = 307)

Variable	Univariate model			Multivariate model-full SRPS			Multivariate model-RC subscale			Multivariate model-DMD Subscale		
	OR	95 % CI	p value	AOR	95 % CI	p value	AOR	95 % CI	p value	AOR	95 % CI	p value
Sexual relationship power, full SRPS scale	0.25	0.08–0.78	0.017	0.24	0.07–0.80	0.020	–	–	–	–	–	–
Sexual relationship power, RC subscale	0.22	0.07–0.66	0.007	–	–	–	0.18	0.06–0.59	0.004	–	–	–
Sexual relationship power, DMD subscale	0.46	0.15–1.37	0.162	–	–	–	–	–	–	0.50	0.15–1.63	0.248
Married	2.52	0.78–8.13	0.122	3.78	1.04–13.72	0.043	3.79	1.03–13.96	0.046	3.53	0.98–12.76	0.055
Age	0.99	0.91–1.06	0.730	–	–	–	–	–	–	–	–	–
Education level (ref = no education)	1.00	–	–	–	–	–	–	–	–	–	–	–
Primary school	2.40	0.29–19.89	0.418	–	–	–	–	–	–	–	–	–
Secondary school or higher	3.54	0.38–32.50	0.264	–	–	–	–	–	–	–	–	–
Household asset index score	0.99	0.75–1.30	0.935	–	–	–	–	–	–	–	–	–
Unemployed	0.59	0.16–2.22	0.434	–	–	–	–	–	–	–	–	–
Hazardous drinking	5.88	1.45–23.83	0.013	6.69	1.38–32.50	0.018	9.71	1.92–49.01	0.006	6.72	1.37–32.94	0.019
Social support	0.78	0.27–2.31	0.659	–	–	–	–	–	–	–	–	–
Food insecurity	3.43	0.44–27.03	0.242	3.70	0.45–30.65	0.224	3.95	0.48–32.68	0.202	3.84	0.47–31.49	0.211

SRPS Sexual Relationship Power Scale, RC relationship control, DMD decision-making dominance, OR odds ratio, AOR adjusted odds ratio, CI confidence intervals

women in Uganda. The strength, direction, and precision of this association held after adjusting for other covariates. While it is difficult to compare across samples due to differences in SRPS scoring procedures and measures of sexual violence, the odds ratios in our study are consistent, if not larger in magnitude, with studies on mostly HIV-negative women [35].

We also found that the association between the RC subscale and transactional sex was consistent with the association between the RC subscale and forced sex, suggesting that transactional sex may fall under the domain of male dominance and control. HIV-positive women with low relationship power may be more likely to engage in transactional sex due to poverty and food insecurity rather than for empowering reasons related to agency and affection. In our sample, 75 % of women reported being food insecure. Other research from Uganda has found that for HIV-positive women who are food insecure, transactional sex is an important strategy for survival and one that men knowingly consider when they approach women for sex [14, 29]. Together, these findings add to the broader

literature on the persistent effects of gender inequality and power imbalances on women's risks for sexual violence by bringing attention to the behavioral and social consequences of living with HIV.

We also found that RC (i.e., relationship control) was more strongly correlated with sexual violence than DMD (i.e., decision-making dominance), which is consistent with a study of malnutrition among HIV-positive women from Uganda [41] and other research describing sexual violence as an attempt by men to maintain control over female partners (e.g., [22, 58, 59]). This finding may also be related to the psychometric properties of the RC subscale. A systematic review found that the RC subscale exhibited sound psychometric properties across many studies whereas the DMD subscale was weaker and more sensitive to specific populations and settings [35]. More psychometric research is needed to measure decision-making power among women to better understand how decision-making intersects with sexual violence, and whether and how different dimensions of power affect women's experience of sexual violence.

Table 3 Logistic regression model for the association between relationship power and recent transactional sex among HIV-positive women in rural Uganda (N = 307)

Variable	Univariate model			Multivariate model-full SRPS			Multivariate model-RC subscale			Multivariate model-DMD subscale		
	OR	95 % CI	p value	AOR	95 % CI	p value	AOR	95 % CI	p value	AOR	95 % CI	p value
Sexual relationship power, full SRPS scale	0.36	0.15–0.88	0.025	0.47	0.18–1.22	0.119	–	–	–	–	–	–
Sexual relationship power, RC subscale	0.41	0.17–1.00	0.049	–	–	–	0.38	0.15–0.99	0.048	–	–	–
Sexual relationship power, DMD subscale	0.45	0.19–1.06	0.067	–	–	–	–	–	–	0.73	0.29–1.83	0.505
Married	0.27	0.08–0.94	0.039	0.38	0.10–1.38	0.142	0.36	0.10–1.33	0.127	0.37	0.10–1.35	0.132
Age	0.98	0.93–1.04	0.552	–	–	–	–	–	–	–	–	–
Education level (ref = no education)	1.00	–	–	1.00	–	–	1.00	–	–	1.00	–	–
Primary school	0.50	0.18–1.34	0.168	0.59	0.19–1.82	0.356	0.60	0.19–1.88	0.386	0.58	0.19–1.80	0.349
Secondary school or higher	0.34	0.08–1.36	0.127	0.54	0.11–2.57	0.436	0.49	0.10–2.36	0.376	0.54	0.11–2.61	0.446
Household asset index score	0.80	0.62–1.03	0.084	0.95	0.73–1.23	0.685	0.94	0.73–1.21	0.639	0.94	0.72–1.22	0.639
Unemployed	0.89	0.35–2.28	0.812	–	–	–	–	–	–	–	–	–
Hazardous drinking	9.13	3.02–27.61	0.000	4.76	1.42–15.99	0.011	5.76	1.69–19.56	0.005	4.80	1.40–16.46	0.013
Social support	0.70	0.31–1.57	0.390	–	–	–	–	–	–	–	–	–
Food insecurity	0.74	0.28–1.99	0.547	–	–	–	–	–	–	–	–	–

SRPS Sexual Relationship Power Scale, RC relationship control, DMD decision-making dominance, OR odds ratio, AOR adjusted odds ratio, CI confidence intervals

Hazardous drinking was the strongest correlate of both forced sex and transactional sex in the multivariable models. Across sub-Saharan Africa, alcohol use has been linked to rape, sexual coercion, transactional sex [15, 21, 47, 60–63], and frequently occurs among HIV-positive individuals [62, 64]. Women's consumption of alcohol may enhance the likelihood that a dispute will lead to violence and can also have a disinhibiting effect by clouding judgment and the ability to recognize early cues of violence. It is also possible that women who drink alcohol have male partners who also drink alcohol [65], and partner alcohol use is a strong correlate of women's experience of sexual violence [62]. With regard to transactional sex, women with alcohol problems may exchange sex for alcohol or for cash to be used to purchase alcohol. A study in South Africa showed that among women who met their partners in bars, nearly half reported that their partner bought them drinks for sex [21]. The association between alcohol and transactional sex might also be explained by participation in commercial sex work in bars or other drinking establishments; however, we were not able to differentiate this

in our analysis. Future research should consider the underlying motivations for engaging in transactional sex to more clearly understand the mechanisms involved. Finally, we found that being married was positively associated with forced sex, which is consistent with research on social norms around women's duty to have sex with their husbands [9, 66].

We highlight several limitations. First, although we captured recent reports of relationship power and sexual violence to close the time gap between the explanatory and dependent variables, we cannot be certain that women's power in a given relationship coincided with sexual violence in the same relationship. Thus, our conclusions may be limited to statements about women's power and experiences of sexual violence in general, and not about the types of partnerships in which this occurs. This limitation is not unique to our study. Most studies on power and sexual behavior use data on individual women, rather than dyadic data on couples [35]—which would provide the ability to evaluate individual versus couple-level effects. Second, we relied on cross-sectional data, limiting our ability to assess

directionality. For example, we cannot assess the bidirectional association between IPV and HIV, including whether an episode of sexual violence occurred as a result of a new diagnosis or whether previous violence contributed to the acquisition of HIV. Evidence from other settings suggests that both directions may be possible [67]. Related to this limitation is our inability to adequately assess whether relationship power mediates the association between other covariates (such as alcohol use) and sexual violence. Future longitudinal and couples studies are needed to evaluate the bidirectionality of power and violence over the course of a relationship and by type of relationship.

Third, since our sample was a clinic-based sample of HIV-positive women on ART, our findings may not generalize to other HIV-positive women who have not yet initiated ART or reside in other geographical areas. It is well established that stigma, discrimination, and other disempowering experiences tend to reduce ART adherence and undermine retention in care [68, 69]. Thus we would expect our sample of HIV-positive women on ART and engaged in care would be less stigmatized as compared to a hypothetical population-based sample of HIV-positive women. However, the direction of the bias (in terms of the association between relationship power and sexual violence) cannot be predicted. Fourth, we would like to highlight that due to a low number of events, which resulted in large confidence intervals for several covariates, we cannot rule out relatively small or large effect sizes. Our findings should be replicated in larger studies or in other populations with a higher prevalence of sexual violence. Fifth, we found a non-significant association between relationship power and transactional sex in the multivariable models and while this trend was strong and in the expected direction, the estimate is likely to be underpowered and imprecise due to the few events of sexual violence in this small sample. Finally, sexual violence is likely to be underreported [70], particularly when using a single-item measure of forced sex. For example, some women may not consider marital rape as “forced sex” because of social norms or may have failed to report violence if there were concerns about confidentiality; although the use of gender-matched, face-to-face interviewers and ethical procedures may have minimized this bias.

Conclusions

This study is one of the first to examine relationship power and sexual violence among HIV-positive women in Africa. There remains a tremendous unmet need for violence interventions targeting women living with HIV/AIDS. While violence, poverty, and other forms of social disadvantage are more concentrated within HIV-positive women [36–38], few interventions have been developed for this population.

Findings suggest that violence prevention interventions with HIV-positive women should consider approaches that improve women’s power in their relationships. Considering the range of issues faced by HIV-positive women [38], a multi-level approach may be required to address factors such as access to HIV care and treatment, social support, stigma and discrimination, disclosure, poverty and food security, and skills to negotiate safer sex and resolve conflict. At the structural level, policy-makers have called for anti-violence programs that are integrated within healthcare services such as HIV testing and counseling [71]. HIV care and treatment programs can draw upon existing guidelines for screening and responding to IPV in the health sector [72, 73] or can turn to a growing number of programs that address IPV alongside HIV [74–76]. Other structural approaches such as economic empowerment and gender transformative interventions may be promising options [77, 78] and could be adapted or intensified for HIV-positive women. At the relationship level, couples-based interventions provide a novel opportunity to address gender-related issues from both partners’ perspectives—as violence is inherently a dyadic process [79]. Couples-based interventions have been efficacious at reducing sexual risk [80] and could be tailored to address sexual violence and other issues such as alcohol use in couples. However, further research is needed to study the causal relationship between power and sexual violence among HIV-positive women and their partners, and to identify the most appropriate ways to reduce sexual violence, improve health outcomes, and prevent the spread of HIV.

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