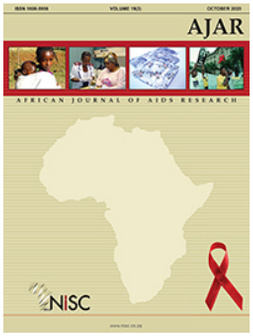

African Journal of AIDS Research

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/raar20

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To cite this article: Phoebe Kajubi , Allison Ruark , Norman Hearst , Sam Ruteikara & Edward C Green (2020) Assessment of an HIV-prevention intervention for couples in peri-urban Uganda: pervasive challenges to relationship quality also challenge intervention effectiveness, African Journal of AIDS Research, 19:3, 249-262, DOI: 10.2989/16085906.2020.1811357

To link to this article: https://doi.org/10.2989/16085906.2020.1811357

Published online: 29 Oct 2020.

African Journal of AIDS Research 2020, 19(3): 249–262

AJAR
ISSN 1608-5906 EISSN 1727-9445
https://doi.org/10.2989/16085906.2020.1811357

Research Article

Assessment of an HIV-prevention intervention for couples in peri-urban Uganda: pervasive challenges to relationship quality also challenge intervention effectiveness

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Reducing multiple and concurrent partnerships has been identified as a priority in generalised HIV epidemics, yet developing successful interventions to bring about such behaviour change has proven challenging. We offered a three-session intervention aimed to improve couple relationship quality and address HIV risk factors, particularly concurrent sexual partnerships (CSP), in a peri-urban community of Kampala, Uganda. Before launching the intervention, a different group of community members participated in eight single-gender focus group discussions (FGDs) which explored issues of couple relationship quality and satisfaction. Findings from the FGDs guided the intervention. All 162 couples invited to the intervention completed a survey pre- and post-intervention. In FGDs, women and men discussed challenges faced in their relationships, including pervasive dissatisfaction, financial constraints, deception and lack of trust, poor communication, lack of sexual satisfaction, and concurrent sexual partnerships. A difference-in-difference analysis showed no measurable impact of the intervention on relationship quality or sexual risk behaviours over a six-month follow-up among 183 individuals who participated in the intervention, although many stated in response to open-ended questions that they had experienced positive relationship changes. Qualitative findings suggest high demand for couple-focused interventions but also reveal many individual-, couple-, community- and structural-level factors which contribute to women and men seeking concurrent sexual partnerships. More intensive interventions may be needed to overcome these barriers to behaviour change and reduce HIV risk. These findings also raise questions about how to interpret divergent qualitative and quantitative data, a topic which has received little attention in the literature.

Keywords: concurrent sexual partnerships, couple-focused interventions, couple relationship quality, HIV risk factors, relationship challenges

Online supplementary information is available at https://doi.org/10.2989/16085906.2020.1811357

Introduction

HIV incidence remains high across sub-Saharan Africa, which accounted for approximately 1.2 million of the world's 1.8 million new HIV infections in 2016 (UNAIDS, 2017). A major proportion of HIV transmission in sub-Saharan Africa is thought to be attributable to concurrent sexual partnerships (Mah & Shelton, 2011), which link members of a population in sexual networks that can efficiently spread HIV (Morris & Kretzschmar, 1997). Modelling studies suggest that approximately two-thirds of new HIV infections in sub-Saharan Africa occur among stable couples, with one-third being transmitted between sero-discordant partners and one-third being introduced from outside the couple (from a concurrent or overlapping sexual partnership) (Chemaitelly et al., 2012). Empirical data from a population cohort in Rakai, Uganda similarly showed that whereas one in four incident infections occurred *within* sero-discordant couples, a greater number of infections were introduced from an *outside* sexual partnership to previously uninfected

couples (Gray et al., 2011). These data suggest that preventing HIV infections to stable couples in Africa's generalised HIV epidemics requires reducing the risk of infection from concurrent sexual partnerships, which may account for as many or more infections as transmission within discordant couples. While researchers have debated the role of concurrency in Africa's high-prevalence HIV epidemics (Halperin & Epstein, 2004; Mah & Halperin, 2008; Lurie & Rosenthal, 2009), a wealth of qualitative data has demonstrated that concurrent sexual partnerships are perceived to be common and normative across the continent (Leclerc-Madlala, 2009; Ragnarsson et al., 2009; Harrison & O'Sullivan, 2010; Limaye et al., 2013; Mah & Maugham-Brown, 2013; Tomori et al., 2013; Cox et al., 2014; Ruark et al., 2014; Kwena et al., 2017).

HIV-prevention interventions that target the couple rather than the individual have unique potential to decrease the HIV risk of concurrent sexual partnerships. Concurrency amplifies risk of transmitting but not acquiring HIV, meaning the partners of those who have concurrent sexual partners face additional risk (Epstein & Morris, 2011). Furthermore, concurrency may be reactive, with one partner's concurrency spurring the other partner to seek a concurrent sexual partner out of jealousy or revenge (Ruark et al., 2014; Sanchez et al., 2015). Couple-focused HIV-prevention interventions show promise, although they have been hampered by a lack of proven models (Karney et al., 2010). A 2015 meta-analysis found that couple-based interventions were more effective than individually focused interventions in promoting condom use, HIV testing, and prevention of vertical HIV prevention transmission (Crepaz et al., 2015). Yet, a 2014 review identified only eleven biobehavioural couple-based HIV-prevention interventions in Africa, nine of which were HIV voluntary testing and counselling studies, and concluded that few studies have examined couple-level interventions aimed at reducing sexual concurrency (Jiwatram-Negrón & El-Bassel, 2014).

Recent research has reported a demand from couples themselves for marriage counselling and family life training, particularly focused on improving communication within the couple (Pettifor et al., 2014; Kwena et al., 2017; Ruark et al., 2019). Couple-based HIV-prevention interventions in South Africa have been effective in increasing HIV testing (Darbes et al., 2016) and decreasing alcohol use, condomless sex, and HIV incidence (Wechsberg et al., 2016). In Uganda, counselling for HIV sero-discordant couples has been found to result in increased condom use with spouses, and fewer concurrent sexual partners among men (King et al., 2015). The recent SASA! intervention mobilised communities in Kampala, Uganda to promote gender-equitable couple relationships and prevent intimate partner violence, and was shown in a cluster-randomised controlled trial to positively impact couple relationship dynamics as well as HIV risk behaviours (Kyegombe et al., 2014). Men in intervention communities reported significantly fewer concurrent sexual partners and more open communication with their wives, and women and men reported more gender-equitable actions and attitudes including increased joint decision-making (Kyegombe et al., 2014). Furthermore, participants in the intervention reported that having the opportunity to reflect on healthy relationships and communication skills led to increased love, trust, and respect between partners, and reduced conflict and intimate partner violence (Starmann et al., 2016).

Approximately 73 000 Ugandans are newly infected with HIV every year, with a 2016–2017 population-based survey showing national annual incidence of 0.40% (0.46% for women and 0.35% for men, and 0.44% for urban populations versus 0.39% for rural populations). Nationally, HIV prevalence among adults is 6.2% (7.6% for women and 4.7% for men, peaking at 12.9% for women aged 35–39 and at 14.0% for men aged 45-49) (Ministry of Health, 2019). Kampala has among the highest HIV prevalences in the country, with 6.9% of adults testing HIV-positive (Ministry of Health, 2019). Women in Kampala report lower levels of risky sexual behaviour than elsewhere in the country, with a mean of 2.7 lifetime sexual partners, and 2% reporting multiple sexual partners in the past year, although 22% reported sex in the past year with a non-marital, non-cohabiting partner (Ugandan Bureau of Statistics [UBOS] & ICF, 2018). Men in Kampala reported a mean of 8.5 lifetime sexual partners and 46% reported having sex in the past year with a non-marital, non-cohabiting partner (UBOS & ICF, 2018).

Women in Kampala also report less spousal violence than in any other area of the country, with 22% of women reporting physical, sexual, or emotional violence from a husband or partner in the past year, compared to 31% nationally (UBOS & ICF, 2018). A similar percentage (24%) of men in Kampala also report violence from a wife or partner in the past year, which is also less than the national figure of 31% (UBOS & ICF, 2018). Although women and men experience similar levels of spousal violence, women are more than twice as likely as men to be physically injured as a result of the violence (UBOS & ICF, 2018). Most Ugandan adults are married, although the proportion of women and men who are married or cohabiting has declined in the last two decades (from 73% to 61% for women and from 62% to 54% for men in the period 1995 to 2016) (UBOS & ICF, 2018). One in four women reported being in a polygamous union, although only 13% of men report the same (UBOS & ICF, 2018).

Uganda's earlier success in curbing new HIV infections has been attributed in part to clear messages warning of the danger of multiple and concurrent sexual partners (Slutkin et al., 2006; Low-Beer & Stoneburner, 2010). Epidemiological evidence confirms that Ugandans heeded this call by having fewer sexual partners, and that this widespread behaviour change was decisive in reducing HIV incidence nationally (Stoneburner & Low-Beer, 2004; Green et al., 2006). While recent data regarding HIV incidence trends in Kampala are unavailable, data from a cohort study in south-west Uganda show that after declines in HIV incidence during the 1990s and early 2000s, HIV incidence began to rise by the mid-2000s along with increases in sexual risk behaviour (Shafer et al., 2008; Biraro et al., 2009).

In 2009, our research in the study community found that a majority of women and men believed themselves to be in a sexual network, due to their own or their partners' concurrent sexual partnerships (Kajubi et al., 2011). Individual perception of AIDS severity was associated with being less likely to report multiple and concurrent sexual partners (Kajubi et al., 2011), and community members believed that

risky sexual behaviour had increased due to decreasing fear of HIV/AIDS (Green et al., 2013). In 2015, we attempted to build on this previous research and ameliorate risk of HIV/AIDS in this community by launching a couple-based intervention which aimed to increase relationship quality and address risk factors for HIV transmission, particularly multiple and concurrent sexual partnerships. We chose to partner with Muslim and Christian religious leaders in this intervention, knowing that religious leaders have long had an important role in HIV prevention in Uganda (Green, 2003; Okware et al., 2005) and are often regarded by communities as being trustworthy, credible, and influential. Religious leaders are also uniquely qualified to speak in culturally influential ways about marriage and family life, including promoting sexual faithfulness and addressing high-risk sexual behaviours such as concurrency. Analysis of the baseline data found that higher relationship quality was associated with lower risk of concurrency in the relationship (Ruark et al., 2018). In the current study, we triangulate quantitative and qualitative data in order to evaluate the impact of the couple-based intervention. We hypothesised that the intervention would result in increased relationship quality and lower sexual risk behaviours including concurrency.

According to social learning theory (Bandura, 1977), trusted leaders may be particularly effective in modelling new attitudes and behaviours. The intervention was also guided by social cognitive theory (Bandura, 1986), which posits that human behaviour is determined by cognitive, behavioural, and environmental factors. The intervention aimed to change knowledge and attitudes regarding couple relationships (cognitive factors), increase communication skills and other skills of good relationships (behavioural factors), and also affect social norms (environmental factors). Specifically, the goal was to shift community norms regarding couple relationships through presenting participants with positive role models (the facilitators) and including a large number of community members in the intervention. Our hypothesis was that all of these factors will contribute towards increasing relationship strengths and decreasing relationship risks among the couples who participate in the intervention.

Methods

Study site

The study was conducted in Tebuyoleka Zone, Bwaise II Parish, Kawempe Division, Uganda. Kawempe Division is a peri-urban, high-density area of Kampala, with a population of slightly over 250 000 people. Residents of Tebuyoleka Zone are low-income and primarily work in various low-skill trades and industries.

Study design

This was a mixed methods study that included an intervention, adopted qualitative and quantitative data collection methods to assess that intervention, and was implemented in four interlinked phases. The first phase consisted of FGDs which served as formative research to guide the intervention. We subsequently carried out a baseline survey, the methodology and results of which have been published separately (Ruark et al., 2018). The focus group discussions and baseline survey were followed by a six-month intervention offered to a different population of couples than had participated in the FGDs. The final phase consisted of an endline survey to evaluate the impact of the intervention. This article presents data from focus group discussions, describes the intervention, and assesses its impact using data captured during the endline survey.

Focus group discussions

Prior to the intervention, eight single-sex FGDs were held with members of the community who did not participate in the quantitative part of the study. FGDs allowed us to efficiently gather data on community members' perspectives on couple relationships and social norms regarding relationships, and also facilitated exploration of a complex and sensitive topic by allowing participants to compare their various experiences and opinions (Morgan, 1997). Facilitators used the findings from these FGDs to guide the design of the intervention and tailor intervention topics to community concerns. We also used data from the FGDs to contextualise findings regarding intervention impact.

FGD participants were convenience sampled with the help of the community leaders. Members of the study team then contacted participants to obtain their consent and to verify that they were conversant in Luganda, the language used for the FGDs. Four FGDs were held with younger adults ages 20 to 34 (two with women and two with men) and four FGDs were held with older adults ages 35 to 49 (two with women and two with men). The FGDs were conducted in a community hall that allowed for privacy. Each FGD had between seven and fifteen participants, lasted one to two hours, and was audio recorded with permission from participants. Participants were asked to discuss whether most couples in their communities were happy, what problems couples experienced, and whether these problems contributed to sexual infidelity, particularly issues of communication, secrecy, and sexual satisfaction.

Sampling and quantitative data collection

The study population comprised married and cohabiting couples residing in households in the study community, in which both partners were aged 20 to 49 and consented to participate in the "quantitative" study. Participants were considered married if they self-identified as married, regardless of their legal marriage status. Polygamous individuals were enrolled into the study as dyads, with only one partner per man invited to participate. Sampling and enrolment has been described elsewhere (Ruark et al., 2018). In brief, we calculated that a sample size of 400 individuals (200 couples) would yield adequate power to detect a change of approximately 0.3 standard deviations among either sex alone or approximately 0.2 standard deviations for both sexes combined in any of the scales to be measured (with a two-tailed alpha of 0.05 and a power of 80%). We then carried out a convenience sample with the help of community leaders, and believe we came close to achieving a total sample of eligible couples in the community. Out of the 200 couples invited to participate, 162 couples (324 individuals) agreed to participate in this portion of the study. There was no overlap between FGD participants and couples invited to participate in the study.

We collected quantitative data from study participants using identical questionnaires before the intervention

baseline and six to seven months later, after the intervention had been concluded (endline). The survey questionnaire included questions about demographic factors, sexual risk behaviour, having a concurrent sexual partner, suspecting one's partner of having concurrent sexual partners, and condom use. The questionnaire also measured relationship satisfaction and quality using psychometric measures of dyadic adjustment, sexual satisfaction, commitment, intimacy, and communication. The measures used in the survey questionnaire have been described in detail elsewhere (Ruark et al., 2018). Members of the study team carried out face-to-face interviews at the participants' homes at a time when privacy could be ensured, in English or Luganda, according to the preference of the participant. Participants gave written informed consent before the baseline interview and re-consented verbally before the endline interview. During the endline survey, participants were also asked open-ended questions about the intervention and its impact.

Intervention

Upon completion of the FGDs and the baseline survey, all participants were invited by the research team and the community leaders to attend a three-session workshop facilitated by an interfaith team: a male Anglican priest, a married Catholic couple, and a female Muslim counsellor. These facilitators represented the three religious groups most prevalent in the study community and in Uganda in general. All facilitators were experienced in couples counselling and HIV-related issues, and the Catholic couple and Muslim facilitator were employed as HIV counsellors at a local hospital. Prior to the intervention, the facilitators spent several months developing a curriculum of approximately nine hours duration (three sessions of three hours each) which addressed a range of topics related to couple relationships and HIV from both Muslim and Christian perspectives (Box 1).

Each of the three workshop sessions was offered on six consecutive Sunday afternoons between March and August 2015 in a classroom belonging to a community primary school at a time when school was not in session and privacy could be assured. The three sessions were spaced out over several months and participants had multiple opportunities to attend each three-hour session. Although we planned to have 50 participants per session, actual attendance varied from 16 to 81 participants, with most sessions having between 20 and 30 participants. Participants were invited to attend each session multiple times if they wished, and some did so. In addition, news about the workshops spread through word of mouth, and some individuals not enrolled in the study asked to attend and were allowed to do so. Members of the study team contacted participants over the course of the intervention to encourage them to attend, and participants were encouraged (although not required) to attend with their partners. No incentives were offered for participation apart from a snack and a drink.

The workshop sessions combined instruction and personal examples given by the facilitators with participatory activities and discussion among participants, including a question and answer period. While the curriculum was targeted at all men and women whether or not legally married, the facilitators also focused on the teachings of their respective religious traditions regarding marriage as the ideal. Discussions among participants were lively, and some participants reacted to the workshop content with strong emotions. The facilitators made a particular effort to have one-on-one conversations with any participants who were visibly distressed or crying (usually women), and also offered their counselling services free of charge after the workshop sessions. A number of participants made use of these services. In addition, several participants requested HIV testing and counselling, and facilitators referred them to nearby health facilities that provided such services free of charge.

Data analysis

We analysed the qualitative data, which included transcripts of the FGDs and open-ended responses given in the quantitative survey, using content thematic analysis (Graneheim & Lundman, 2004). Members of the research team first transcribed and translated the recorded audio FGDs from Luganda into English. The first author cross-checked and verified the transcripts for consistency

Box 1: Intervention topics

Session 1
1A. Purpose and meaning of marriage: foundation of marriage, types of marriage.
1B. Love in marriage: intimacy, romance, "love languages",1 and types of love.
1C. Defining values and handling issues in marriage: money, property, time use, parents and relatives, children, friends, leisure and entertainment, culture and religion, socialising, alcohol, planning together.
Session 2
2A. Sexual faithfulness: significance of sex in marriage, sexual satisfaction, the meaning of fidelity and implications of infidelity, promoting faithfulness in marriage.
2B. Communication: meaning and importance of effective communication, how to improve couple communication, verbal and non-verbal communication.
2C. HIV/AIDS and other sexually transmitted infections: modes of transmission, prevention and treatment, HIV testing for couples, positive prevention.
Session 3
3A. Parenting: types and styles of parenting, positive parenting, understanding children and their language, being friends with children.
3B. Sexuality: Understanding human sexuality.
3C. Conflict resolution: Common conflicts and causes of conflict in marriage, talking about and discussing conflicts, resolving conflicts through peaceful options and forgiveness.

and accuracy, and also began preliminary analysis through the process of listening to the audio recordings of the FGDs and reading through the transcripts, which generated emerging themes and codes for use in later analysis. Transcribed data were also read and cross-checked by other members of the research team. The first and second authors then developed a codebook based on this preliminary analysis as well as topics in the interview guide.

The second author coded the open-ended responses given in the quantitative survey using the same codebook. The codebook was iterative, meaning that codes were progressively developed, reviewed by the first and second authors, and applied to the dataset. During coding, we identified quotations illustrative of particular themes to be used in the presentation of findings. The entire analysis process enabled identification of recurring themes, linkages and similarities between themes, and triangulation of the qualitative data with the quantitative data.

We analysed quantitative data using Stata version 14 (StataCorp LP, College Station, Texas). We carried out descriptive and bivariate analyses of demographic characteristics, sexual risk behaviours, and relationship quality measures. To compare these variables among women and men who did and did not participate in the intervention, we used chi-squared statistics for categorical variables, *t*-tests for linear variables, and equality-of-median tests for the relationship quality measures, which had non-parametric distributions. To examine whether there was a greater change in relationship quality or concurrent sexual partnerships over follow-up among the women, men and couples who attended the intervention, compared to individuals and couples who did not attend the intervention, we performed a difference-in-difference analysis using linear regression, including examining actor-partner effects and adjusting for various demographic characteristics. A difference-in-difference analysis examines the impact of an intervention by comparing changes in outcomes over time between a group which participated in an intervention and a group which did not. This analysis does not assume that the two groups are equivalent, as they have self-selected into the two groups rather than being randomly assigned.

The TREND statement checklist (Table S1) is available online as supplementary information.

Ethics

The Mengo Hospital Research Ethics Committee (Protocol 566/6-14) and Uganda National Council for Science and Technology (Protocol SS3668), located in Kampala, reviewed and approved the study. We obtained permission to conduct the study from the Resident District Commissioner of Kawempe Division and the local leadership of Tebuyoleka Zone. All participants gave written informed consent before participating in the study. To ensure confidentiality, no names were recorded. The New Paradigm Fund (Washington, DC) provided funding for the study.

Findings

Participant characteristics

A total of 39 men and 50 women participated in eight moderated single-sex focus group discussions FGDs (Table 1). All participants were married or cohabiting, with younger adults reporting having been in their current marriage or partnership for 1–12 years, and older adults reporting generally longer relationship durations of up to 30 years. Older participants also reported more children. The majority of the FGD participants had primary level education, and only five had progressed to the tertiary level. More women than men were unemployed, with most unemployed women reporting being housewives.

Table 2 shows characteristics of the 324 individuals (162 couples) who agreed to take part in the study. At baseline, women had a mean age of 28, while men had a mean age of 34. Most participants had some secondary education but had not completed secondary school, and most reported being informally employed. Approximately equal numbers of participants were Muslim, Anglican, and Catholic, with a smaller minority reporting being from other Christian denominations. The great majority of participants (nearly 9 in 10) reported that they were cohabiting, while the remaining participants were formally married.

Challenges faced by couples in their relationships

In FGDs, community members echoed the challenges discussed by participants in the intervention, and the content of these discussions (which were richer and more extensive than qualitative data collected during the endline survey) illuminate why a three-session intervention may have failed to show measurable impact. Men and women presented diverse opinions on the degree to which couples were satisfied in their relationships. We noted differences by age and sex in participants' views regarding marital happiness, yet also many similarities. The majority of women and men of all ages were concerned about financial issues, children, and infidelity. Other common relationship problems included domestic violence and lack of sexual satisfaction for women and men. Poverty and gender roles emerged as cross-cutting themes which influenced all other relationship issues. Discussion of gender roles, such as men's responsibility to provide money for the household and women's responsibility to manage the home, was present in every discussion to some degree. There was consensus that many couples were not satisfied and that this lack of satisfaction drove men and women to seek other concurrent sexual partners.

Men and women tended to blame each other for their lack of happiness and satisfaction in their relationships. Participants reported that while some couples decided to stay together because they had children together, relationships were often characterised by deception, secrecy, and a lack of trust and positive communication. Having outside concurrent sexual partnerships was felt to be common, and often led to the ending of a relationship. Participants were aware that multiple and concurrent sexual partnerships increased risk of HIV and other STIs, and some mentioned fear of HIV, STIs, and pregnancy as reasons to stay faithful to a sexual partner.

Many couples are not satisfied in their relationships

The first topic raised in the FGDs concerned whether most couples were happy in their relationships. Both women and men agreed that couples usually start out happy in their relationships but get less happy over time. Participants

invested considerable discussion in the causes for this, and women and men offered different viewpoints and blamed each other for loss of marital happiness. Women felt that they became less attractive to their husbands after giving birth to children. As men's love and attraction to their wives faded over time, they looked for younger and more attractive sexual partners on whom to spend money, consequently neglecting their families and abandoning their responsibilities to their wives. For their part, men attributed declines in marital happiness to poverty and increased responsibilities, which put demands on them financially and emotionally. They struggled to provide enough money to meet household needs, provide for children's medical and educational expenses, and satisfy their wives' requests. Paradoxically, whereas men complained that women tended to neglect them and give most of their attention to the children, which decreased their happiness, women were also concerned with their husbands not spending enough time at home and not showing them love through time and attention.

Participants also attributed the lack of happiness in their relationships to an insufficient amount of time spent getting to know each other during courtship. Both women and men reported that in the past couples and their families would have the opportunity to get to know each other during courtship through cultural practices such as the payment of bride price to the woman's family. Traditionally, the bride-to-be would be counselled by her parents and paternal aunt as part of preparation for marriage. However, such practices have declined. Some older women stated that they felt bitter towards their husbands for never performing the customary practice of visiting their parents' homes to be officially "introduced" to the relatives and community members and to pay the bride price, and felt that this contributed to them not being treated well by their husbands. Participants expressed the opinion that modern couples are not happy in their relationships because they typically meet in bars, start living together without clear expectations for the marriage and are not accountable to anyone. Older women in particular expressed an overwhelming desire for their husbands to be "formally introduced" to their parents and receive consent and parental blessing for their marriage.

Financial constraints blamed for relationship strain

Challenges related to financial issues cut across all the other themes, although women and men expressed very different viewpoints. Men blamed poverty and stress of financially providing for their families for relationship strain. Men attributed the financial challenges to increased responsibilities/expenses in the home compared to their incomes. The women, on the other hand, complained of being given insufficient or no financial support by their husbands to take care of household responsibilities. They explained that because their husbands did not allow them to work, this tempted them to sleep with other men for financial support to meet their personal and household needs. The women complained further that when their husbands had money available, they did not want to come home and spend time with their wives. The men, on the other hand, explained that their wives demanded to be given time, attention and be treated well, which added to the stress of not having enough money to give them.

> *Most couples are not happy because men neglected their responsibilities to women. If the woman works, the man leaves all the home expenses to her and if the woman earns little money from her job, she gets another man who can help her to cover the expenses at home. So, because of this the couple can't be happy.* (Younger woman, FGD)
>
> *When all our money gets used up over time, women start to despise us. You are not a man if you don't have money and we even lose our desire for sex if we don't have money… Money is the most important driving factor in a relationship and if a man is poor, he won't be respected by the woman.* (Older man, FGD)

Older women, who had spent more years in their relationships and had more children than younger women, expressed bitterness regarding the way their husbands treated them. In part because they had more children to care for, they felt overwhelmed by household responsibilities and reported a lack of care and support from their husbands, which made them unhappy. They explained that their husbands refused to let them work for fear that they would get involved with other men and become "hard to control" once they had money of their own, and yet their husbands did not provide them with sufficient funds to meet household needs. Men expressed a consensus that women should not be allowed to work because they would come back home too tired to have sex, become unruly, neglect household chores, make friends who were a bad influence, or obtain other sexual partners.

> *The jobs which our wives have also cause problems in our marriages. If the woman has a job, she becomes big-headed and when you try to counsel her, she tells you that she is capable of taking care of everything at home…what helps us now is not allowing them to work…once the woman gets a job she becomes hard to control.* (Younger man, FGD)

Many relationships characterised by deception, secrecy, and a lack of trust

Participants reported that relationships were often characterised by deception, secrecy, and a lack of trust. Findings revealed similarities in men and women's viewpoints regarding this theme. Participants were asked whether a couple should keep secrets from each other, if they actually kept secrets, and about the consequences involved. There was consensus among women and men that it was imperative for couples to keep secrets from each other, although women and men gave different answers about what secrets are acceptable, and the consequences of such secrets. Both women and men discussed secrecy around income and property, end-of-life wills, extra-marital relationships, and children produced from these relationships.

In all FGDs, women and men stated that they did not trust each other enough to share information about their incomes. Women felt they could not declare their incomes to their husbands for fear that they would steal the money or relegate household responsibilities to them. For their part, men agreed that they should not disclose to their wives their full incomes or tell them about property such as plots of land. They felt that such secrecy was imperative, even

if it required deception. Men strongly believed that women were more interested in their husbands' incomes than the relationship. Consequently, they felt the need to safeguard themselves from women's selfish motives.

Some men argued that women had no need to keep secrets from their husbands, unless they had children born outside the marriage. Men strongly believed that women kept secrets about the paternity of their children, and they expressed serious concern about the potential of raising children that were not biologically theirs. Women similarly believed that men keep secrets about children produced outside of marriage, as well as secrets about other sexual partners.

Lack of positive communication

Participants were asked to explain the difference between bad and good communication and the problems encountered when they try to communicate. Both women's and men's responses revolved around expected gender roles of women. Women stated that good communication involved the wife warmly welcoming the husband from work, greeting him calmly and politely and inquiring how his day had been, preparing warm water for him to bathe and serving him dinner. Women also felt that good communication involved the couple discussing issues regarding their marriage together. In one of the focus group discussions with younger women, there was an occasional mention of "love", but it was often in the context of women needing to outwardly display love towards their husbands, such as by washing the husband's feet when he returned home.

Women described bad communication as men barking at their wives, issuing commands, and not listening to their opinions. Women in all FGDs repeated the concern that men do not listen to their wives, saying that communication problems cannot be solved unless their husbands are willing to listen to them and discuss the issues at hand. In contrast, men stated that good communication involves men finding ways to apologise to their wives without actually saying "I'm sorry" by buying gifts, allowing wives to do what they want to do, and speaking calmly to them after a disagreement. Men further explained that good communication meant that women respect their husbands as the head of the household. In men's view, women should not think of themselves as equals, and during disagreements it was the woman's role to be calm and soothe her husband. However, participants pointed out that actual communication between couples ranged from bad communication to no communication at all. Whereas women complained that their husbands were autocratic and unyielding in their communication, men on the other hand reported that communication from their wives was characterised by accusations and disrespect, which made them retaliate with physical or verbal abuse or not talk to their wives at all.

> *The man always wants you to follow his decisions… You only have to keep quiet and follow what he says because he can't accept your views. He is always the one who is right.* (Older woman, FGD)

Lack of sexual satisfaction

In response to a question regarding whether it is important for a couple to have a satisfying sex life, women and men agreed that it is important to have a satisfying sex life, but also discussed loss of desire or interest in sex and why spouses sometimes deny each other sex. They explained that lack of a satisfying sex life between a couple results in infidelity and, in some cases, separation.

Women and men similarly attributed problems of sexual desire to lack of sexual exclusivity and demands of life. In all FGDs, participants blamed hormonal birth control for making women less lubricated and thus contributing to women's lack of sexual desire. Other causes for lack of sexual desire included infidelity, disagreements between couples, boredom and familiarity, drunkenness, financial challenges, STIs and other illnesses, and living in one room with children leading to a lack of privacy to enjoy sex.

Women also discussed circumstances that led them to deny their partners sex. In one FGD, older women stated that they denied their husbands sex when they returned home drunk because they disliked the offensive smell of alcohol, when they failed to provide food for the family or pay children's school fees, and during conflicts or situations of domestic violence. Such withholding of sex in turn fuelled further conflict.

> *Sometimes you go back home when you are very tired because of the nature of your job and you fail to have sex with the woman. If you don't have sex with the woman, she becomes annoyed and she can go out for another sexual partner in order to have sex.* (Older man, FGD)

Concurrent sexual partnerships normative

Having outside concurrent sexual partnerships was felt to be common and inevitable, but participants also expressed that infidelity was the biggest challenge to a relationship. Participants in all FGDs mentioned adultery as being a contributor to damaging or ending relationships and jeopardising happiness. When asked whether it is important to be sexually faithful to one's spouse, women and men affirmed that this was important but also expressed that adultery is acceptable in some situations. Women and men regarded having concurrent sexual partnerships as inevitable, but generally believed that women were bound legally, financially, through tradition, and by gender roles to be sexually faithful to their husbands. In contrast, participants thought that it was almost impossible for men to be sexually faithful to their wives, and polygamy and infidelity were seen as normal. While men expect their wives to be faithful and threaten divorce if they are not, men were thought to be unable to be faithful themselves. Furthermore, men expect their wives to give them time and attention and practise new sexual techniques in order to help them remain faithful. Participants alluded to initiating other sexual partnerships in revenge if they suspected their partner to be unfaithful, or because they were seeking financial support or sexual satisfaction in instances where they were neglected by their spouses.

On the other hand, participants were aware that multiple and concurrent sexual partnerships increased risk of HIV and other STIs, and some mentioned fear of HIV, STIs, and pregnancy as reasons to stay faithful to a sexual partner. Women desperately desired their husbands to be faithful to them so that they would not get infected with

STIs or HIV, would be able to trust each other, and would develop financially as a couple. Women also believed that men would love and respect their wives more if they were sexually faithful to them.

Intervention participation and impact

The intervention achieved relatively high participation. Most participants attended at least one session (60% of women and 53% of men) and 40% of women and 32% of men attended all three sessions. Eighteen participants attended four or more sessions (i.e. attended at least one session more than once). Of the 162 couples, 34 couples had perfect attendance (both partners attended all sessions), 54 couples did not attend any sessions, and of the remaining 74 couples at least one partner attended some or all sessions.

Bivariate analysis found few significant differences between women and men who did and did not subsequently participate in the intervention (Tables 1 and 2). Participants were somewhat older (differences significant at $p = 0.007$ for women and $p = 0.020$ for men). Women and men who attended the intervention also reported lower sexual satisfaction than non-attendees ($p = 0.019$ for women and $p = 0.001$ for men), and women who attended also reported lower commitment than women who did not attend ($p = 0.027$).

Our analysis found no significant differences in relationship quality or risky sexual behaviour between attendees and non-attendees post-intervention (Table 3). Only 83% of participants were re-interviewed in the endline survey. Eleven of those who had attended the intervention (five women and six men) and 45 of those who had not attended the intervention (21 women and 24 men) were lost to follow-up. Loss-to-follow-up did not differ significantly (at $p < 0.05$, using chi-squared statistics) by attendance status for either women or men.

In the difference-in-difference analysis, we noted no significant associations between intervention participation and outcomes of interest (relationship quality or risky sexual behaviours) among participants as a whole or in any sub-group examined, including among individuals who attended some or all of the workshop sessions or whose partners attended some or all sessions. We also found no evidence of intervention impact in actor-partner and couple-level analyses. Both women and men reported higher relationship quality in the endline survey than in the baseline survey in the domains of sexual satisfaction, communication, and commitment. We cannot attribute these changes to the intervention as changes were similar among individuals who did and did not attend the intervention. Due to the complexity of the analysis and the flat (non-significant) results, we have chosen not to present the findings of the difference-in-difference analysis in detail.

Although quantitative data collected at the endline survey did not show measurable impact of the intervention, many participants reported that they and their relationships had been positively influenced. Qualitative data captured during the endline survey suggested that many people did find the intervention culturally appropriate and impactful. Nearly all the 183 attendees stated they had experienced positive changes in their relationships. During the endline survey, the great majority of participants who had attended at least one session expressed satisfaction with the intervention and agreed or strongly agreed that they were happy with the workshop (100%), said they would like to attend more workshops like it (99%), felt that participation had improved their marriage or relationship (98%), and reported they would be likely to recommend the workshop to a friend or family member (95%).

Comments from participants during the endline survey also illuminated the role of such an intervention within this cultural context. For example, many participants reported that communication was a serious challenge in traditional cultural norms dictating that women should be submissive and quiet, and kneel before their husbands, and obey orders. During the endline survey, many participants reported that the intervention had positively impacted communication between them and their spouses and had improved their relationships. Many said they would want to attend another session and also recommend it to friends or other couples.

> *I would recommend a friend or family member to attend the trainings because I never used to agree with my husband, we used to quarrel all the time but ever since I attended the trainings, we started communicating well.* (Woman, 22 years)

> *I would like to attend another training because it is educational…[it] helped us to improve our trust and communication as a couple.* (Man, 41 years)

Several women stated that the intervention served to provide the kind of counselling about sex and marriage that had traditionally been provided by a *ssenga* (paternal aunt), but that now is sometimes lacking.

> *I would like to attend another training because if you did not get marriage training from your aunt, when you attend these marriage trainings you learn*

Table 1: Characteristics of focus groups for discussions

Group	Number of participants (N = 89)	Age (years) mean (range)	Relationship duration range (years)	Number of children range (n)	Employed (n)
FG 1: younger women	11	26 (20–33)	1–12	0–7	3
FG 2: younger women	12	25 (20–34)	1–12	1–4	7
FG 3: younger men	12	26 (23–29)	1–5	0–3	12
FG 4: younger men	7	30 (24–34)	1–15	0–4	6
FG 5: older women	15	38 (35–47)	2–25	0–5	6
FG 6: older women	12	39 (35–48)	5–30	2–12	8
FG 7: older men	8	40 (35–49)	2–20	3–7	8
FG 8: older men	12	40 (35–46)	1–24	1–8	12

Younger participants were aged 20–34 years; older participants were aged 35–49 years

more about how to treat a man, how to parent your children, how to avoid getting infected with HIV/AIDS and the effects of alcohol use in marriage. (Woman, 39 years)

Several participants whose spouses did not attend the workshops said that they felt attending such training could facilitate discussion of sensitive issues with their partners that would not be possible without such a catalyst. These included men and women who felt they were not satisfied sexually by their partners and believed the workshops would help address their need satisfactorily. Women with husbands who had forbidden them to work particularly wanted their spouses to attend and learn the benefit of wives working and contributing to the family income. Participants reported other issues that they could not discuss with their spouses but felt could be handled adequately during workshops, including: agreeing on the religion to be practiced if spouses are from different faiths; how wives

Table 2: Participant characteristics, baseline

Variable	Women (*n* = 162)			Men (*n* = 162)		
	Attended intervention (*N* = 97) *n* (%)	Did not attend (*N* = 65) *n* (%)	*p*-value	Attended intervention (*N* = 86) *n* (%)	Did not attend (*N* = 76) *n* (%)	*p*-value
Age – Mean (SD)	29.4 (6.2)	26.9 (5.4)	0.007**	35.0 (7.2)	32.4 (7.0)	0.020*
Years married – Mean (SD)	6.8 (5.1)	6.4 (5.4)	0.594	7.2 (5.3)	6.2 (4.8)	0.240
Marital status			0.941			
Cohabiting	87 (90.6)	58 (89.2)		73 (85.9)	66 (86.8)	
Married, monogamous	8 (8.3)	6 (9.2)		8 (9.4)	9 (11.8)	
Married, polygamous	1 (1.0)	1 (1.5)		4 (4.7)	1 (1.3)	
Education			0.093			0.765
Primary or less	34 (35.4)	18 (27.7)		32 (38.1)	30 (39.5)	
Some secondary	48 (50.0)	31 (47.7)		28 (33.3)	22 (29.0)	
Completed secondary	4 (4.2)	10 (15.4)		9 (10.7)	12 (15.8)	
Tertiary	10 (10.4)	6 (9.2)		15 (17.9)	12 (15.8)	
Employment			0.023*			0.373
Informal	44 (45.8)	44 (67.7)		68 (80.0)	57 (75.0)	
Formal	11 (11.5)	5 (7.7)		14 (16.5)	18 (23.7)	
Unemployed	41 (42.7)	16 (24.6)		3 (3.5)	1 (1.3)	
Religion			0.091			0.027*
Muslim	19 (19.8)	20 (30.8)		23 (27.1)	28 (27.3)	
Anglican	30 (31.3)	19 (29.2)		29 (34.1)	17 (22.7)	
Catholic	19 (19.8)	20 (30.8)		21 (24.7)	27 (36.0)	
Other Christian	22 (22.9)	6 (9.2)		12 (14.1)	3 (4.0)	
CSP[a] past 6 months[b]			0.185			0.323
Yes	90 (95.7)	57 (90.5)		71 (85.5)	68 (90.7)	
No	4 (4.3)	6 (9.5)		12 (14.5)	7 (9.3)	
Thinks primary partner has had CSP past 6 months[c]			0.667			0.616
Yes or don't know	33 (34.7)	24 (38.1)		35 (42.7)	35 (46.7)	
No	62 (65.3)	39 (61.9)		47 (57.3)	40 (53.3)	
Condom use, primary partner[b,c]			0.208			0.705
Never	80 (84.2)	48 (76.2)		69 (83.1)	64 (85.3)	
Sometimes or always	15 (15.8)	15 (23.8)		14 (16.9)	11 (14.7)	
Either partner drunk at last sex with primary partner[b]			0.584			0.503
Yes	17 (18.1)	14 (22.2)		9 (10.8)	10 (13.3)	
No	77 (81.9)	49 (77.8)		74 (89.2)	64 (85.3)	
	Median (IQR)	Median (IQR)	*p*-value	Median (IQR)	Median (IQR)	*p*-value
Dyadic adjustment	80.3 (70.8–88.1)	85.0 (76.2–90.5)	0.139	83.7 (76.5–87.8)	86.4 (79.6–91.2)	0.488
Sexual satisfaction	75.0 (69.6–82.1)	78.6 (71.4–83.9)	0.019*	75.0 (67.9–80.4)	80.4 (75.0–83.9)	0.001**
Commitment	89.8 (76.6–100)	98.4 (68.8–100)	0.027*	95.3 (70.3–100)	98.4 (89.1–100)	0.507
Intimacy	88.3 (69.5–96.9)	93.8 (71.9–100)	0.198	92.2 (82.8–96.9)	93.8 (87.5–100)	0.460
Communication	89.3 (78.6–100)	92.9 (83.9–100)	0.304	92.9 (85.7–100)	92.9 (85.7–100)	0.528

Note: *p*-values calculated using chi-squared statistics for categorical variables, *t*-tests for age and years married, and equality-of-medians tests for remaining continuous variables, which had non-parametric distributions.

*$p < 0.05$; **$p < 0.01$

[a]CSP = concurrent sexual partner(s), i.e., sexual partner(s) in addition to regular sexual partner or spouse(s) and not including wives of polygamous men

[b]Among those who reported sex in past 6 months

[c]For first wife reported, for polygamous men who reported 2+ wives

can balance work and family obligations; parenting children, especially those from another relationship or born outside marriage; consequences of alcohol use; and financial and sexual issues.

> *I would like to attend another training with my husband so that I can tell him the things which I cannot tell him directly when we are together e.g. he has to first prepare me for sex*. (Woman, 24 years)

> *I would like to attend another training with my wife… so that I can assure her that anger is not the solution to all our problems, but she has to be patient with my financial situation.* (Man, 48 years)

Some women who wanted to give up on their marriages reported that the intervention addressed the challenges in their relationships, consequently helping them to make an informed decision to stay and work on their marriages.

> *Sometimes we go for those trainings with different worries and problems, but once we are taught, it helps to relieve our hearts. For example, I was fed up with my marriage, but when I attended the trainings, I decided to stay and stand strong in my marriage*. (Woman, 29 years)

Several participants appreciated the workshops and explained that through the discussions they were able to learn from other couples' experiences, which helped them to improve on their relationships.

> *I would attend another training like this in order to get an overview of marriage from different people. I learnt that ladies love sex as much as the men do and also how to put them in the mood for sex*. (Man, 29 years)

During the endline survey, participants were also asked what one thing they wished had been discussed during the training or would like to know more about. The most frequently mentioned topics in response to this query were sex, HIV/AIDS, money, and communication. Participants desired greater discussion of increasing sexual satisfaction within their relationships, including sexual techniques. Many participants expressed a desire to know more about HIV/AIDS, including how couples could be HIV-discordant and how to care for people living with HIV which in some cases seemed to include their partners. Handling family finances and increasing financial security were other topics of common concern. Finally, participants frequently cited communication and conflict resolution as critical relationship issues that they desired to know more about. While all of these topics were included in the intervention, many participants expressed that the amount of time devoted to a certain topic had been insufficient, or that they regretted missing the session addressing a certain topic.

Participants were also asked to respond to the open-ended query, "Please explain why you would be likely or unlikely to attend another training like this, or recommend it to a friend or family member." Only one participant, a man who had attended one session, stated that he would not recommend the training. In contrast, several participants stated that they

Table 3: Sexual behaviour and relationship quality, endline

Variable	Women (*N* = 136)			Men (*N* = 132)		
	Attended intervention (*n* = 92) *n* (%)	Did not attend (*n* = 44) *n* (%)	*p*-value	Attended intervention (*n* = 80) *n* (%)	Did not attend (*n* = 52) *n* (%)	*p*-value
CSP[a] past 6 months[b]			*p* = 0.348			*p* = 0.755
Yes	5 (5.5)	4 (10.0)		5 (6.4)	4 (7.8)	
No	86 (94.5)	36 (40.0)		73 (93.6)	47 (92.2)	
Thinks primary partner has had CSP past 6 months[c]			*p* = 0.859			*p* = 0.461
Yes or don't know	54 (59.3)	25 (61.0)		31 (39.7)	17 (33.3)	
No	37 (40.7)	16 (39.0)		47 (60.3)	34 (66.7)	
Condom use, primary partner[b, c]			*p* = 0.214			*p* = 0.738
Never	77 (84.6)	31 (75.6)		64 (82.1)	43 (84.3)	
Sometimes or always	14 (15.4)	10 (24.4)		14 (17.9)	8 (15.7)	
Either partner drunk at last sex with primary partner[b]			*p* = 0.746			*p* = 0.089
Yes	13 (14.3)	5 (12.2)		10 (12.8)	2 (3.9)	
No	78 (85.7)	36 (87.8)		68 (87.2)	49 (96.1)	
	median (IQR)	median (IQR)		median (IQR)	median (IQR)	
Dyadic adjustment	82.3 (71.8–89.1)	86.4 (71.4–93.2)	*p* = 0.128	86.1 (79.6–91.8)	83.3 (78.2–91.5)	*p* = 0.333
Sexual satisfaction	78.6 (73.2–83.9)	81.3 (75.0–83.9)	*p* = 0.763	80.4 (74.1–82.1)	82.1 (76.8–83.9)	*p* = 0.570
Commitment	85.9 (75.0–87.5)	87.5 (75.0–87.5)	*p* = 0.552	87.5 (81.3–87.5)	87.5 (81.3–87.5)	*p* = 0.333
Intimacy	89.1 (71.9–96.9)	93.4 (82.8–100.0)	*p* = 0.431	93.4 (85.9–99.2)	93.4 (88.3–100.0)	*p* = 0.741
Communication	87.5 (74.1–92.9)	90.2 (79.5–92.9)	*p* = 0.948	91.1 (78.6–92.9)	92.9 (88.4–92.9)	*p* = 0.838

Note: *p*-values calculated using chi-squared statistics for categorical variables and equality-of-medians tests for continuous variables (which had non-parametric distributions).Endline survey data were available for only 136 women and 132 men

[a]CSP = concurrent sexual partner(s), i.e. sexual partner(s) in addition to regular sexual partner or spouse(s) and not including wives of polygamous men

[b]Among those who reported sex in past 6 months

[c]For first wife reported, for polygamous men who reported 2+ wives

regretted that they had not been able to attend more of the sessions. Multiple participants also expressed that they would like to receive further training so that they could offer counsel to people in their families, communities, and religious congregations. These overwhelmingly positive comments are consistent with the observations of the study team during the intervention that participants were fully engaged in the sessions and reacted very positively to the content.

Discussion

In evaluating the impact of the intervention, we must reconcile divergent data. Participants expressed in comments during the intervention sessions and endline survey that they were experiencing positive change in their relationships. Yet the quantitative data collected during baseline and endline surveys provides no evidence that individuals and couples who participated in the intervention were more likely to reduce their sexual risk behaviours or experience improved relationship quality. There are many possible explanations for this. Our sample size may have been too small or the "dose" of only three sessions and timeline of a few months insufficient to produce measurable differences. Relationship quality scores at baseline were quite high, which may have meant that the relationship quality measures used had a limited ability to show significant improvements over follow-up. It is also possible that through participating in the intervention, women and men raised their expectations of how their relationships should function, which might have caused them to assess their relationships more soberly in the endline survey, thus underestimating the true improvements they had experienced.

Some research has suggested that relatively low-cost and small-scale qualitative studies can produce findings highly consistent with, and arguably equal in validity to, large quantitative surveys (Green, 2001). Researchers have also noted that in some cases qualitative data collection methodologies (such as in-depth interviews) may reduce social desirability bias compared to quantitative methodologies such as surveys, and thus produce data that more accurately reflect reality (Ruark & Fielding-Miller, 2016). In this study, we suspect that social desirability may have biased the qualitative data more than the quantitative data, as participants may have desired for the study team to believe the intervention was appreciated and effective. We do not suggest that the qualitative findings "prove" the intervention was effective, but neither do we dismiss the qualitative data. We do suggest that the question of how to interpret divergent qualitative and quantitative data deserves greater attention by researchers and in the literature, and we caution against assumptions that quantitative data are necessarily more valid.

Participant feedback demonstrated a substantial demand for and high acceptability of the intervention, although a significant minority of individuals enrolled in the study did not attend any sessions despite the fact that the study team made great efforts to repeatedly invite them. Some individuals may not have perceived a need for such an activity, particularly individuals who perceived their relationships more positively. The study team also identified multiple barriers that impeded participation, including the fact that in this impoverished community many people worked long hours out of economic necessity and had little time for other activities. Future interventions which are implemented in high-poverty, urban environments must continue to grapple with such realities. On the positive side, the fact that more than half of those invited attended at least one session and that many uninvited community members also chose to participate indicates demand for couple-strengthening activities in this population.

Data from the FGDs provided rich context on the challenges that couples face in establishing healthy, well-functioning relationships, and may also help to explain why the intervention did not show impact according to quantitative measures of relationship quality and sexual risk. The fact that FGD participants reported that they were generally unsatisfied in their relationships demonstrates the need for couple-focused interventions (consistent with feedback from participants in the endline survey). The fact that individuals who attended the intervention reported lower relationship quality in some domains, particularly sexual satisfaction, also suggests a greater demand for the intervention among those with more troubled relationships. Yet the complexity and persistence of the challenges reported by couples points to the fact that more intensive interventions may be needed to help men and women develop relationships skills and build more mutually satisfying and faithful relationships.

This research is consistent with research from other African contexts that has explored how relationship dissatisfaction contributes to sexual concurrency. A study of Tanzanian couples used social exchange theory to theorise that women and men evaluated what they could get from a relationship (women focusing on financial support, and men on emotional and sexual satisfaction) and became dissatisfied when the "rewards" did not meet expectations (Cox et al., 2014). Both women and men agreed that relationship dissatisfaction was a critical contributor to concurrent sexual partnerships, as women and men sought other sexual partners to provide financial, emotional and sexual rewards that they believed their main partners could not (Cox et al., 2014). Research from fishing communities in Kenya similarly identified lack of sexual satisfaction among couples as a reason for seeking concurrent partners. Lack of sexual satisfaction was due to mismatches in sexual desire between spouses, and physical exhaustion, with men being physically exhausted from fishing and women from household chores and farming (Kwena et al., 2017). This research also found that lack of communication about sexual satisfaction inhibited couples' ability to have mutually satisfying sexual relationships, and implicated short courtships and couples not knowing each other well before marriage as a reason why married couples sought other sexual partners. Similarly, research from Zimbabwe found that marital dissatisfaction, amplified by a lack of ability to communicate about this dissatisfaction, was the "root cause" of concurrent sexual partnerships (Mugweni et al., 2015). Men were particularly dissatisfied with the quality and frequency of sex within their marriages, and most endorsed the belief that men possess uncontrollable "lust" to have sex with different partners, although a minority of men reported

marital and sexual satisfaction in marriage due to good communication with their wives (Mugweni et al., 2015).

The SASA! intervention, despite its five-year implementation period from 2007 to 2012 and success in changing community norms, also identified barriers to change including partial uptake of messages and lack of interest in the intervention or in changing behaviour among some men (Kyegombe et al., 2014). Despite its success in improving some facets of couple functionality and in decreasing concurrent sexual partnerships among men, this intervention also failed to show significant impact on most outcomes of interest among women (Kyegombe et al., 2014). In our view, Epstein and Morris's assertion that "practical prevention-oriented research on concurrency is only just beginning" remains true (Epstein & Morris, 2011, p. 1).

Conclusion

Although this study provided mixed evidence of impact, we believe that it did provide evidence of a demand for such an intervention, as well as illuminating the myriad relational challenges that couples face: poverty leading to strain on the relationship; deception; secrecy; a pervasive lack of trust; problems in communication; lack of sexual satisfaction; and the conflict associated with concurrent sexual partnerships. Interventions which seek to reduce HIV risk for couples, whether through changing sexual behaviour or other means, must grapple with these relationship realities. While there may be no easy solutions, couples themselves express a high demand for support in overcoming these challenges. We believe it is incumbent on HIV-prevention interventions to respond to this demand by broadening the scope of HIV programming to address relationship challenges which are integrally related not only to patterns of sexual concurrency, but to the success of all HIV prevention, treatment, and care interventions.

Acknowledgments — The authors are grateful to the team that participated in data collection (Marvin Kateregga, Cate Kiyenje, Josephine Nabukera and Ritah Nassaka) and data analysis. Special thanks go to the study participants who provided valuable information. We acknowledge the support of the study community, particularly the Resident District Commissioner of Kawempe Division and the local leadership of Tebuyoleka Zone who provided permission for the study. We thank the New Paradigm Fund (Washington, DC) for providing funding for the study. AR was supported by a post-doctoral fellowship through the National Institute on Drug Abuse (#T32DA13911).

Notes

[1] Using the typology of five ways to express and experience love (physical touch, words of affirmation, acts of services, gifts, and quality time), as first described by Chapman (1992).

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