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Gendered differences in the perceived risks and benefits of oral PrEP among HIV-serodiscordant couples in Kenya

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ABSTRACT

Pre-exposure prophylaxis (PrEP) is effective for preventing HIV among HIV-serodiscordant heterosexual couples. Gender roles may influence perceived personal and social risks related to HIV-prevention behaviors and may affect use of PrEP. In this study, interviews and focus groups were conducted with 68 individuals from 34 mutually disclosed serodiscordant heterosexual partnerships in Thika, Kenya. Sociocultural factors that affect adherence to PrEP were explored using grounded analysis. Three factors were identified, which shape perceptions of PrEP: gendered power dynamics and control over decision-making in the household; conflicts between risk-reduction strategies and male sexual desire; culture-bound definitions of women's work. Adherence to PrEP in the Partners PrEP Study was high; however, participants articulated conflicting interests related to PrEP in connection with traditional gender roles. The successful delivery of PrEP will require understanding of key social factors, particularly related to gender and dyadic dynamics around HIV serostatus.

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Introduction

By 2012, approximately 1.2 million people in Kenya between 15 and 64 years of age were living with HIV, and an estimated 4.8% of cohabitating married couples were in serodiscordant partnerships, placing nearly 260,000 seronegative spouses at risk for new HIV infection (Maina et al., 2014). Recent studies demonstrate that novel biomedical prevention interventions can result in substantial reductions in the risk of HIV transmission between serodiscordant heterosexual partners through early initiation of antiretroviral therapy (ART) for the seropositive partner (Cohen et al., 2011) and pre-exposure prophylaxis (PrEP) for the seronegative partner (Baeten et al., 2012; Grant et al., 2010).

Social science research has demonstrated that culturally constructed gender roles and dynamics can influence the adoption of HIV risk-reduction behaviors promoted by various HIV-prevention interventions (Bourgois, Prince, & Moss, 2004; Montgomery et al., 2008; Montgomery, Chidanyika, Chipato, & van der Straten, 2012; Wagner, Bloom, Hathazi, Sanders, & Lankenau, 2013; Woodsong & Alleman, 2008). Both the seronegative partner's belief in treatment efficacy (Johnson et al., 2011) and socially scripted norms of masculinity, which incentivize men to do things like avoid treatment or even steal pills from their spouse when their masculinity is threatened (Skovdal, Campbell, Nyamukapa, & Gregson, 2011), have been known to affect adherence to ART within serodiscordant couples. Furthermore, perceived risk of acquiring or transmitting HIV is associated with changes in the frequency of both risky sexual practices (Ostrow et al., 2002) and precautionary behaviors (Gerrard, Gibbons, & Bushman, 1996). Serodiscordant couples in Kenya often display low levels of agreement in their perception of shared risk factors for HIV infection (Nikolova, Small, & Mengo, 2014). Heteronormative gender roles likely influence HIV risk behavior and the uptake, use, and adherence to novel HIV-prevention methods such as PrEP and do so differentially across genders.

The Partners PrEP Study, a randomized clinical trial of PrEP among 4747 heterosexual, serodiscordant couples in Kenya and Uganda, demonstrated high HIV protection from PrEP and found high levels of adherence among seronegative participants of both genders (Baeten et al., 2012). The specific ways in which traditional gender roles helped or hindered patient adherence, as well as the strategies that were used to successfully integrate PrEP into the context of a heterosexual partnership, remain unclear. This study explores the sociocultural

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factors that shape heterosexual, HIV-serodiscordant partnership members' perceived risks, benefits, and barriers of using oral PrEP and other related HIV-prevention strategies (such as condom use).

Methods

This is a qualitative study that explores gendered differences in the perceived risks, benefits, and barriers to using daily oral PrEP in heterosexual, HIV-serodiscordant couples.

Participants in this study were in long-term, HIV-serodiscordant sexual relationships. All were recruited from among the 496 couples enrolled at the Thika, Kenya, site for the Partners PrEP Study, a placebo-controlled randomized control trial designed to test the efficacy of PrEP for HIV prevention in heterosexual men and women (Baeten et al., 2012). All participants in the Partners PrEP study received HIV testing and HIV-prevention counseling at baseline, as well as counseling on the nature of placebos and a clear description that the efficacy of PrEP as a prevention mechanism had not been scientifically established at that time.

Couples from the Partners PrEP Study were included into this qualitative sub-study if they were in a stable, sexually active, relationship; if both spouses were at least 18 years old; and if the seropositive partner had not yet initiated ART. Couples who were known to have experienced incident HIV infection after enrollment into the Partners PrEP Study (i.e., couples in which the seronegative partner had become infected) were not included in this study. The serostatus of all couples participating in the Partners PrEP Study was mutually disclosed. For this qualitative sub-study, a convenience sample was generated by contacting eligible couples by phone. Those willing and available to participate were invited to the site for either for focus group discussions (FGDs) or for individual interviews (IDIs). IDI participants were recruited as a couple; FGD participants were recruited individually.

A total of eight FGDs were conducted: two with only HIV-seropositive women, two with only seropositive men, two with only seronegative women, and two with only seronegative men. Twenty IDIs were conducted, during which each individual was interviewed alone, without their study partner present. IDIs and FGDs were led by a social science team, which consisted of a trained interviewer and an assistant for taking notes. The interviewer used a guide, which focused on participants' experiences participating in the Partners' PrEP Study, acquiring PrEP, and using PrEP, as well as their preferences for accessing PrEP or ART following the end of the trial. Guides were specific to the interview method – FGDs and IDIs – with questions tailored to the HIV status of the participant. The sessions were conducted in English, Kiswahili, or Kikuyu, according to the preference of participants. All IDI and FGD were audio recorded, transcribed, translated into English, and analyzed. Another independently designed analysis of these transcripts, conducted with a different purpose and methodology, has been published elsewhere (Curran et al., 2014).

For this study, MaxQDA version 11 software (Berlin, Germany) was used to analyze transcript data with a modified version of grounded analysis for generating social theory (Glaser & Strauss, 1967). All transcripts were first read and free-coded separately by two researchers [J.C. and K.C.] to identify broad themes and trends as well as to maintain consistency and in the codes used. General trends identified in the data were then discussed with members of the research team [R.H., K.C., K.N., and J.C.]. Based upon the team's expertise in local culture in Thika, as well as the relative "thickness" of the identified trends in the data (Geertz, 1973), gendered difference in the experience of HIV-serodiscordant couples was identified as a pattern that merited further exploration. All transcripts were then re-read and re-coded [by J.C.] in order to develop grounded theories of gendered roles, power dynamics, and cultural scripts. The themes presented here were identified during this final stage of analysis.

This research protocol was approved by the University of Washington Human Subjects Division and the Kenyatta National Hospital Ethics Review Committee.

Results

A sample of 68 participants in the Partners PrEP Study participated in this research (see Table 1). Of these, 33 were HIV seropositive (18 women, 15 men) with an average age of 35.2 years (range: 20–60) and average CD4 count of 550.9 cells/mm^3 (range: 261–1164) prior to recruitment into this sub-study. The remaining 35 participants were HIV seronegative (18 women, 17 men) with an average age of 38.1 years (range: 22–63). Relationship characteristics were available for a majority of participants. Among them, the average duration of the relationship was approximately 10 years, and 12% of male participants reported concurrent relationships with multiple wives.

Three distinct themes were identified in the FGD and IDI data: (1) gendered power dynamics and control over decision-making in the household; (2) conflicts between risk-reduction strategies and male sexual desire; (3) culture-bound definitions of women's work in the household. For clarity, direct quotes have been marked to

Table 1. Participant Demographics ($N = 68$).

HIV-negative participants, n (%)	35 (51.5%)	
Female, *n* (%)	18 (51.4%)	
Age, median (range)	38.1 (22–36)	
HIV-positive participants, n (%)	33 (48.5%)	
Female, *n* (%)	18 (54.6%)	
Age, median (range)	35.2 (20–60)	
CD4 count, median (range)	550.9 (261–1164)	
Other characteristics		***N***
Years of school, median (IQR)	8 (7–12)	55
More than one wife, *n* (%)	3 (12%)	26[a]
Relationship duration in years, median (IQR) (as measured by years of cohabitation)	10.0 (3.8–15)	55
Relationship duration in years, median (IQR) (as measured by years since 1st sex)	10.5 (3.2–16.8)	55

[a] Among males only.

indicate the speaker is a seropositive female (F+), a seropositive male (M+), a seronegative female (F−), or a seronegative male (M−).

Theme 1: gendered power dynamics and control over decision-making

Men and women reported different abilities to make medical decisions in their households according to their serostatus. HIV-seronegative women overwhelmingly reported that the decision for either partner to initiate ART or PrEP, as appropriate, belonged entirely to their husbands. "*For me, it is my husband who decides*" (F−). One woman indicated that disagreeing with her husband's decisions could result in violence. "*If he agrees to what the doctor tells him, it is ok, but if I tell him … and he doesn't want it, it will result in violence in the home*" (F−).

HIV-seropositive men (i.e., the partners of HIV-seronegative women) also reported that they possess the ultimate authority to make medical decisions for themselves and their spouses. "*Men [will decide which spouse takes PrEP or ART, accordingly], because if the man is taking drugs than my wife will also take them*" (M+). Men often described themselves as the head of the household to justify this claim. One HIV-seropositive man reported deceiving his spouse about his HIV status so that she would agree to marry, thus placing him in charge of her.

> I lied to make her come to my home. Even using the drugs, I am the one who will teach her first [i.e. will control her access to information] before I agree to use them. If I accept, she will also accept, but if I refuse, she will also refuse (M+).

In female-seropositive couples, women echoed claims that medical decisions are usually made by men; however, some indicated that women can find more subtle ways to exert agency over their own personal decisions.

> It is like family planning, when a woman plans to use [contraception (oral and injectable contraception are widely available in Kenya; Okech, Wawire, & Mburu, 2011)] even if the husband refuses, she will still go ahead with the plan … because you have already decided (F+).

Many HIV-seronegative men largely characterized medical decision-making as a responsibility shared by both partners. "*The two of you decide [who will take drugs] together*" (M−). Others characterized medical decisions as a choice that individuals have a right to make for themselves. "*There is no one who will decide for the other*" (M−). One HIV-seronegative man was openly critical of cultural scripts that give men authority over their spouses' medical decisions. "*According to tradition, most of the time men are the ones who decide, but nowadays, because it is a disease, it is not a 'must' for the man to decide*" (M−).

Theme 2: conflicts between risk-reduction strategies and male sexual desire

According to participants, risk-reduction strategies, such as using condoms during sexual intercourse, often conflict with cultural scripts that privilege male sexual pleasure above other concerns. HIV-seropositive women were especially vocal about the negative consequences of these competing interests, reporting that HIV-seronegative men frequently refused condoms during intercourse. "*He is not using a condom … he refused*" (F+). The ability to avoid condom use was perceived to support the health of the marriage.

> Many men don't like using [condoms] so we feel if those [PrEP] drugs were available they would assist us because when you have sex with him he doesn't feel satisfied … if those drugs work, he will not be using the condom and that will assist us through marriage (F+).

Many HIV-seropositive women also reported that their husbands engaged in regular extra-marital sex. "*A man is a man. He can get out there and whoever he meets will not tell him how she is [if she is HIV-positive]*" (F+).

One woman also reported forced, unprotected sex with her husband.

> You have big children, and you spread a sack for the child to lay down there, and you are with your husband. You will not scream because your husband has not put on a condom. You will be forced to give him sex because you fear the embarrassment with the children being around (F+).

HIV-seronegative men reported dissatisfaction with condoms. "*I don't want to wear the condom*" (M−).

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Some voiced interest in forming new sexual partnerships and posed questions to the researchers about whether they could continue receiving PrEP if they continued the intervention with a new spouse. "*I would like to ask, if I am continuing with [PrEP] and my wife leaves, will it be ok for me to bring my new wife [to this clinic]?*" (M−).

In couples with HIV-seropositive men, neither partner mentioned struggles with condom use or the need to negotiate male sexuality. One HIV-seropositive man suggested that PrEP medication helped his wife feel comfortable with sex. "*[My wife] can be assisted by [PrEP], because even when you have sex she will have a bit of confidence*" (M+). One HIV-seronegative woman made a reference to potential infidelity on the part of her husband. "*You cannot depend on someone 100%. He can slip, or you never know, maybe you have a misunderstanding and he thinks she is [having unprotected sex because she is negative*" (F−). Overt conflicts between risk-reduction strategies and male sexuality, however, were not explicitly referenced in male-seropositive couples.

Theme 3: culture-bound definitions of women's work

Many participants discussed gendered divisions of labor in the household, including the cultural norm that women are responsible for domestic work and for managing the health care of the entire family. HIV-seronegative men often considered the management of clinic visits and drug regimens to be the responsibility of their wives. "*Normally it is the woman who comes to the clinic*" (M−). HIV-seropositive women framed these responsibilities in terms of sacrifices that they make for their families. "*A bigger percentage [of those willing to take medication] will be women, because as you know a woman can sacrifice anything for her family*" (F+).

HIV-seronegative men expressed frustration with the PrEP regimen and indicated that the burden of taking medication has been thrust upon them by their HIV-seropositive wives. "*You know, she is the one who is sick … If I am not with her, why should I use it? So, let me say that she is the one who is making me use it*" (M−).

Some stated that seropositive women should carry this pill burden alone. "*[She should take ART in place of me taking PrEP] because she is the one who has the disease*" (M−).

HIV-seropositive women echoed the observation that their husbands find PrEP burdensome. "*[Men] say they get tired of taking [PrEP drugs]. You may find someone saying 'Why do I take these drugs … when I am not sick?*" (F+). Others indicated that the burden experienced by partners taking PrEP was also financial. "*Your husband won't agree to buy you food and buy you [PrEP] drugs. You will have put a burden on him and he will chase you*" (F+).

Several indicated that some HIV-seronegative men would rather abandon their wives than begin taking PrEP. "*They [men] will say 'Why am I buying these drugs to take each day? Isn't it better for me to go look for a person who is not sick so that I can stop taking these drugs?*'" (F+).

In couples with HIV-seropositive men, women spoke at length about the work they must do to care for their children. "*[Women] are the ones who have a bigger responsibility of taking care of children*" (F−). They also described managing their spouses' health care.

> Men don't like to take drugs. When a man leaves in the morning, you will ask him, have you taken your drugs? He even says 'yes' when he hasn't taken them … You feel like you have a big burden in the house, you must check that he has taken them … the burden is on the woman (F−).

Multiple women said they joined the Partners PrEP Study for their children's well-being. "*I just agreed to take [PrEP] because I couldn't leave [my husband] and I have a child*" (F−).

Claims that PrEP is burdensome for the seronegative partner were voiced almost exclusively in couples with a seropositive woman. Except for a single participant who commented that his wife needs to be healthy so that she can continue caring for their children after he dies, no HIV-seropositive men made reference to the potential burden experienced by their partners by taking PrEP, gendered divisions of labor, or women's work in their home. Only one HIV-seronegative woman referred to her husband's refusal to take ART as a regular difficulty for her. No seronegative women descried PrEP as burdensome. HIV-seropositive men did not refer to ART as a burden at all.

Discussion

This is a qualitative study exploring the sociocultural factors that shape heterosexual, HIV-serodiscordant couples' experiences with PrEP for HIV prevention. Analysis of IDI and FGD transcripts revealed differences in the reported risks, benefits, and value of PrEP among study participants according to the gender of the participant as well as the gender of the seropositive spouse. Three major themes were identified among these differences: the gendered power dynamics and control over medical decision-making; the interference of prevention strategies with the fulfillment of male sexual drives; and

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the gendered division of practical labor, including healthcare-related labor, in the home.

The control exerted by male partners over medical decisions is consistent with other studies. In a vaginal microbicide trial in Zimbabwe, for example, male participants "gave permission" to their female partners to participate (Montgomery et al., 2012). Findings from the parent study cohort, published elsewhere (Ngure et al., 2014), reveal a similar dynamic in childbearing decisions; when men wanted a child but their wives did not, they used language such as "she must" and "I will force her." Such intense divisions of power have been known to result in domestic violence against women (Pintye et al., 2015; Wingood & DiClemente, 2000), and HIV-seropositive women are at higher risk of such abuse than their seronegative peers in both Kenya (Fonck et al., 2005; Onsomu et al., 2014) and Uganda (Emusu et al., 2009; Were et al., 2011). These patterns provide a possible explanation for why the seropositive men in this study were vocal about their control of household decisions and silent about the potential for taking PrEP to be burdensome to their spouses: they may experience their HIV diagnosis as a loss of masculine control, which they are subsequently attempting to re-establish in their homes.

The need for women to negotiate men's sexual desire when adopting HIV-prevention strategies is also well documented. For example, women who gained access to novel, female-initiated prevention methods, such as microbicide gel, during other research trials reported the need to seek consent from their sexual partners in order to use them (Montgomery et al., 2008; van der Straten et al., 2014; Woodsong & Alleman, 2008). The findings presented here indicate that men's desire for unprotected sexual encounters may directly conflict with the behavior change required for risk reduction even when the male partner is the one who would benefit most from that risk-reduction strategy.

The threat of physical abuse or the withholding of financial support if unprotected sex is refused has been reported by women in Kenya (Ngure et al., 2012) and Uganda (Bunnell et al., 2005). The risk of partner abandonment is also high among mutually disclosed couples (Bunnell et al., 2005; Izugbara & Wekesa, 2011) and appears to be higher among female-seropositive couples (Mackelprang et al., 2014). Data presented here reveal that these tensions, especially those felt by women, can remain high even when the couple's serodiscordant status is being tolerated and even when PrEP adherence is high.

This study also indicates that gendered divisions of labor place the decision-making largely in the hands of the men, but assign the daily management of healthcare to the women. Similar divisions of labor have been observed in Zimbabwe, where men adopt a breadwinner role, "taking care of" and "working for" the family. In return, women were expected to be obedient and manage routine domestic tasks (Montgomery et al., 2012). This means that initiating PrEP for the spouse of either gender in a serodiscordant marriage will likely constitute an increased labor burden on the female spouse, addition to the other caregiving roles she already takes on at home, regardless of her HIV status.

PrEP presents a viable and successful HIV-prevention strategy for seronegative men, who, as indicated by their own testimony, have low levels of interest in regular condom use. Men also showed high adherence to PrEP in the Partners PrEP Study (Baeten et al., 2012). Nevertheless, pill taking is often characterized as burdensome by seronegative men, even when they are taking their pills regularly. Vocally complaining about the burden of taking PrEP may allow men to enact power over their spouse or to counteract the loss of control they may experience due to their spouse's HIV status. This is further evidenced by the fact that these complaints were almost exclusively voiced by seronegative men and their spouses.

The limitations of this study should be considered when interpreting these results. First, participants were recruited in Thika, Kenya, and the immediately surrounding farming community. These data may not be generalizable to other regions. Second, this study drew from a population of couples who were committed to an HIV-prevention study and to maintaining their relationship despite HIV infection. They may not be representative of all serodiscordant couples. In particular, it is possible that the seronegative men in participating couples are more tolerant of their wives' HIV serostatus or of the daily oral PrEP regimen than is typical. Future research should explore why serodiscordant couples that stay together manage to do so.

Additionally, while this study is able to identify existing patterns in the perception and negotiation of risks across differences in gender and serostatus, a finer examination of how those perceptions and negotiation strategies vary within gender- and serostatus-defined subgroups requires a more focused ethnographic investigation than is presented here. Future research that explores the differences in risk perceptions and management strategies across age groups or stages of marriage would be fruitful.

It has been observed that initiating PrEP may relieve the dilemma that serodiscordance presents to a committed couple, thus strengthening the relationship (Ware et al., 2012); however, the data presented here suggest that tensions arising from inequitable, gendered

divisions of power and responsibility in serodiscordant relationships may inform the perceived risks and benefits of PrEP. Namely, serodiscordant heterosexual couples report the presence of relational stress that exacerbates (and is exacerbated by) traditional gender roles. This stress may invoke conflict over the fulfillment of numerous marital obligations including, but not limited to, fidelity, sexual relations, childbearing, and household management. This confluence of social pressures is understood to be more burdensome for women than for men, regardless of the gender of the seronegative spouse.

Adherence to PrEP in the Partners PrEP Study was high; therefore, these reported stresses were not sufficient to deter participants from taking PrEP. The decision of a seronegative partner to initiate and adhere to PrEP is nevertheless mediated by these social factors. Support strategies to ensure proper adherence and linkage to care can be strengthened by responding to local social concerns and idioms of distress, such as those identified in this study. The success of PrEP delivery in this region will likely be improved if clinicians and counselors are educated about such factors.

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