Motivations for Reducing Other HIV Risk-Reduction Practices if Taking Pre-Exposure Prophylaxis: Findings from a Qualitative Study Among Women in Kenya and South Africa

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Abstract

Findings from a survey conducted among women at high risk for HIV in Bondo, Kenya, and Pretoria, South Africa, demonstrated that a substantial proportion would be inclined to reduce their use of other HIV risk-reduction practices if they were taking pre-exposure prophylaxis (PrEP). To explore the motivations for their anticipated behavior change, we conducted qualitative interviews with 60 women whose survey responses suggested they would be more likely to reduce condom use or have sex with a new partner if they were taking PrEP compared to if they were not taking PrEP. Three interrelated themes were identified: (1) “PrEP protects”—PrEP was perceived as an effective HIV prevention method that replaced the need for condoms; (2) condoms were a source of conflict in relationships, and PrEP would provide an opportunity to resolve or avoid this conflict; and (3) having sex without a condom or having sex with a new partner was necessary for receiving material goods and financial assistance—PrEP would provide reassurance in these situations. Many believed that PrEP alone would be a sufficient HIV risk-reduction strategy. These findings suggest that participants’ HIV risk-reduction intentions, if they were to use PrEP, were based predominately on their understanding of the high efficacy of PrEP and their experiences with the limitations of condoms. Enhanced counseling is needed to promote informed decision making and to ensure overall sexual health for women using PrEP for HIV prevention, particularly with respect to the prevention of pregnancy and other sexually transmitted infections when PrEP is used alone.

Introduction

SEVERAL PLACEBO-CONTROLLED clinical trials have demonstrated the efficacy of oral emtricitabine/tenofovir disoproxil fumarate (FTC/TDF) in reducing the risk of HIV acquisition.^{1–3} As a result, FTC/TDF is now available as oral pre-exposure prophylaxis (PrEP) in the United States and is recommended by the US Centers for Disease Control and Prevention and others as an HIV prevention option for individuals in the United States who are at substantial HIV risk.⁴ The World Health Organization has also endorsed PrEP as

part of a comprehensive risk-reduction package for men who have sex with men and for HIV-negative partners in HIV sero-discordant relationships.⁵

In sub-Saharan Africa, where many of the PrEP clinical trials were conducted, FTC/TDF as PrEP has not yet received regulatory approval but is offered through demonstration projects to individuals at risk of HIV infection.⁶ These projects evaluate the delivery and use of PrEP outside the clinical trial context and assess product uptake, adherence, and other factors related to the introduction of a new HIV prevention technology, such as changes in sexual behaviors. Many other

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activities are also under way to plan for the introduction of oral PrEP in countries in sub-Saharan Africa and elsewhere,⁷ including studies to assess the needs of health systems to deliver PrEP and the potential barriers to and facilitators of providing and using PrEP,^{8–10} stakeholder consultation meetings,^{10,11} and the provision of normative guidance.¹² Findings from these demonstration projects and preparation activities will provide supportive evidence for regulatory approval of FTC/TDF as PrEP in sub-Saharan Africa, as well as inform the subsequent rollout of PrEP as part of a comprehensive HIV prevention strategy.

We conducted a mixed-methods study among women at high risk of HIV in two communities in sub-Saharan Africa—Bondo, Kenya, and Pretoria, South Africa—to prepare for the provision of HIV risk-reduction counseling for women interested in using PrEP, once rolled out. With the introduction of any new HIV prevention method, practitioners and scientists are concerned that users may reduce or stop using their current HIV risk-reduction practices or engage in riskier sexual behaviors—a concept referred to as “risk compensation.”^{13,14}

Although risk compensation with the introduction of PrEP is less of a concern for HIV prevention than originally anticipated, given the high efficacy of PrEP, PrEP users must still consider the use of other risk-reduction practices with respect to the prevention of pregnancy and several other sexually transmitted infections (STIs). (Currently, FTC/TDF has been shown to reduce the risk of herpes simplex virus type 2¹⁵ but no other STIs). However, because PrEP does not eliminate all risk of HIV, and because daily adherence may be difficult for some, US guidelines on PrEP currently recommend that individuals use PrEP with other HIV risk-reduction measures, particularly condoms, for the most protection against HIV.¹⁶

In our study, we were interested in learning if and how women’s self-reported use of HIV risk-reduction practices in certain contexts might change if they had access to and used PrEP; and, if so, we wanted to understand women’s motivations for reducing the use of other HIV risk-reduction practices if they were to take PrEP. In 2012, we initiated the first phase of our research, which was a randomized survey to examine women’s sexual risk intentions if they were taking PrEP compared with if they were not taking PrEP.¹⁷

We found that a substantial proportion of participants—between 27% and 40%, depending on the risk situation (i.e., sex with a casual partner, sex with a regular partner, sex with a new partner, transactional sex)—indicated they would be likely to reduce the use of other HIV risk-reduction practices if they were to take PrEP. To explore the motivations surrounding these intentions, we conducted follow-up, qualitative interviews with survey participants in the second phase of our research. Here we describe the findings of the qualitative interviews.

Methods

Study sample and data collection

Women who participated in the previous survey were recruited from local HIV testing and counseling centers and enrolled in the study if they (1) were 18–35 years of age, (2) HIV-negative, (3) had at least one vaginal sex act in the past 2 weeks, or more than one sexual partner in the past 6 months, and (4) had not received any prior counseling on PrEP. After

the survey data collection was completed in December 2012, we conducted qualitative semi-structured interviews (SSIs) with 60 survey participants (30 from each site), from February to May 2013. Interviewees were systematically selected from among survey participants whose previous responses to the risk intention questions suggested they were more likely to reduce HIV risk-reduction measures if they were taking PrEP (e.g., participants who said they were “very likely” to use a condom in a certain risk situation if not taking PrEP but “not likely” to use a condom in that situation if taking PrEP).

The sample was stratified by the type of survey vignette (i.e., risk situation) the woman responded to with an intention to decrease HIV risk-reduction behaviors. The vignettes were (1) deciding whether to use a condom with a casual partner, (2) deciding whether to use a condom with a regular partner, (3) deciding whether to have sex with a new partner, (4) and deciding whether to use a condom during transactional sex.

We began the SSIs by providing refresher information about PrEP, similar to the information provided at the beginning of the survey.¹⁷ Participants were reminded that PrEP is an antiretroviral medicine that comes in the form of a tablet and should be taken every day to provide the best protection against HIV. Participants were informed that PrEP does not prevent HIV 100% of the time and current studies have shown that PrEP can reduce a woman’s chance of becoming infected with HIV by 66–71%.²

We then asked the participants questions to explore why women would stop using condoms or have sex with a new partner, when they normally would not, if they were taking PrEP. To facilitate the discussion, we summarized the vignette from which each participant was sampled and provided simplified survey results for the question about risk intention (e.g., ___% of women who said they would normally use condoms in this situation said they were likely to not use condoms in this situation if they were taking PrEP/___% of women who said they would normally not have sex with this new partner said they would be likely to have sex with him if they were taking PrEP).

Participants were then asked to describe the context surrounding HIV risk-reduction intentions in that situation. Participants focused on factors that could influence other women or themselves to stop using condoms or make them more likely to have sex with a new partner if they were in that risk situation and taking PrEP under the assumption of a 66–71% risk reduction.² We also asked participants to reflect upon what their behavioral intentions would be if they were counseled that PrEP, if used consistently, could reduce HIV risk by 90%.¹⁸

Interviews were conducted at the study offices by local trained interviewers in the language chosen by the participant (i.e., Kiswahili, Dholuo, Setwana, English). All interviews were digitally recorded with the participants’ permission. Participants received reimbursement for their time and transport (approximately \$3.50 in Bondo and \$6.25 in Pretoria; participants in Bondo were also reimbursed the fare they incurred).

Analysis

Digital audio recordings of the follow-up qualitative SSIs were simultaneously transcribed and translated into English

following a transcription protocol.¹⁹ The typed English transcripts were uploaded into NVivo 10²⁰ to facilitate analysis. We used systematic inductive thematic analysis to analyze the data.²¹ Structural codes were applied first to segment the transcripts by question and response. Two analysts then developed thematic codes, based on the content of responses and overarching themes from the structural coding reports, to describe reasons for discontinuing condoms when taking PrEP or having sex with a new partner when taking PrEP. Analysts defined and tested the codes on two transcripts by independently coding each transcript and comparing the application of the codes.

Slight modifications were made to the codebook, and each analyst then independently coded five interviews. After the fifth transcript, inter-coder agreement was qualitatively assessed on a sixth transcript (resolving any disagreements into a consensus-coded document), and any necessary re-coding was performed. This process continued until all transcripts were coded and all coding discrepancies resolved. Reasons for reducing other HIV risk-reduction behaviors were identified and grouped into subcategories based on thematic similarities. Summaries were developed describing the themes, including the frequencies of code occurrences and narrative segments exemplary of a particular theme. Data from Bondo on participants' perceptions about the use of other HIV risk-reduction measures when using PrEP of 90% efficacy were excluded from the analysis because the question was not asked consistently and the meanings of some responses were difficult to understand.

Ethics

The research was reviewed and approved by the Ethics Review Committee at the Kenya Medical Research Institute (Bondo), the Pharma-Ethics Review Board (Pretoria), and the Protection of Human Subjects Committee at FHI 360 in the United States. Based on local ethics requirements, participants in Bondo provided verbal informed consent and participants in Pretoria provided written informed consent.

Results

Demographic information

Table 1 lists the data on demographic characteristics, sexual partnerships, and sexual behaviors collected at the time of the survey, among participants who took part in the SSIs. The mean age of participants was 23 in both sites. More participants in Pretoria (97%) than in Bondo (37%) had completed some or all of secondary school or some post-secondary school. Being a housewife or not being employed (63%) was common in Pretoria, whereas working in the fishing industry (30%) or as a market or street vendor (17%) was common in Bondo. Almost all participants in Bondo and Pretoria (97% and 100%, respectively) reported having a primary partner; the majority of participants in Pretoria (67%) were not married and not living with a partner, whereas the majority of participants in Bondo (63%) were married and living with their husband. Many (62% in Bondo and 47% in Pretoria) reported never using a condom with their primary partner. Less than half of the participants (43% in Bondo and 33% in Pretoria) reported having another sexual partner in the past month. Condom use was higher with other

sexual partners than with primary partners; 54% of participants in Bondo and 50% in Pretoria reported always using a condom with their other sexual partners.

Study population

Of the 60 participants who took part in the follow-up SSIs, 22 spoke about the casual partner vignette, 19 about the regular partner vignette, and 19 about the new sexual partner vignette; 13 participants who spoke about one of these three vignettes also discussed the transactional sex vignette. Further, 20 participants from Pretoria spoke about possible changes in their sexual behavior if PrEP reduced their HIV risk by 90%.

Motivations for reducing use of other HIV risk-reduction measures

Participants' reasons for why women in their communities (or the participants themselves) would be likely to stop using condoms or to have sex with a new partner if taking PrEP centered primarily on three interrelated themes: PrEP protects, PrEP alleviates existing challenges with using condoms, and PrEP provides opportunity for financial gain.

PrEP protects. "PrEP protects" was a reason given by the majority of participants, and given far more often than any other reason, to explain why they thought women (or the participants themselves) would be likely to discontinue condom use or have sex with a new partner if they were taking PrEP. Participants perceived PrEP as an effective HIV prevention method that would replace the need for condoms:

[Women] feel that when they are taking PrEP, PrEP is helping to prevent HIV acquisition the way condoms prevent. So that is why...when taking PrEP you feel you don't need condoms. (22-year-old, single woman from Bondo)

PrEP will act as a condom...Yes, [women will stop using condoms] because women feel that if they are taking PrEP, they feel that PrEP is more secure compared to condoms. Because there are even some cases where you even hear of condom burst, but with PrEP if you are taking it, obviously there is nothing you will hear that it is not functional that day...it is something that is in your body daily. (23-year-old, married woman from Bondo)

A 26-year-old, single woman from Pretoria explained why she and other women might be more likely to have sex with a new partner if taking PrEP:

They think that because they are taking PrEP, they won't be infected with the disease. And again, they will be taking the pill every day so the possibility of being infected is very small...they trust PrEP...and that partner will be spoiling you with nice things, and because he is the new partner, then you must also satisfy him...We young women like nice things...I will be thinking he has lots of money so I must also satisfy him sexually, then he won't leave me for other women.

Almost all participants from Pretoria described that women would be likely to stop using condoms or to have sex with a new partner if PrEP reduced their HIV risk by 90%:

I think for them not to take condoms, neh, isn't it that it [PrEP] will be 90%? It will no longer be 66%. So, they will be sure that they will not get infected, so they will not use a condom. [26-year-old, single woman from Pretoria (different from previous respondent)]

TABLE 1. PARTICIPANTS' DEMOGRAPHIC CHARACTERISTICS, SEXUAL PARTNERSHIPS, AND SEXUAL BEHAVIORS

Variable	Bondo (n=30)	Pretoria (n=30)
<i>Demographic characteristics</i>		
Age – years		
Mean	23	23
Range	18–32	18–31
Education, n (%)		
Completed primary school or less	19 (63)	1 (3)
Completed some or all of secondary school	9 (30)	20 (67)
Some post-secondary certificate, diploma, degree	2 (7)	9 (30)
Marital status and co-habitation, n (%)		
Not married and currently not living with partner	8 (27)	20 (67)
Not married and living with partner	1 (3)	9 (30)
Married and not living with partner	0 (0)	0 (0)
Married and living with partner	19 (63)	1 (3)
Separated	0 (0)	0 (0)
Divorced	1 (3)	0 (0)
Widowed	1 (3)	0 (0)
Has not remarried or been inherited	1 (3)	n/a
Has remarried or been inherited	0 (0)	n/a
Occupation, n (%)		
Market/street vendor	5 (17)	1 (3)
Fishing industry (Bondo only)	9 (30)	n/a
Bar, tavern, club, hotel employee; hairdresser	2 (7)	1 (3)
Agricultural work	4 (13)	0 (0)
Office work	0 (0)	1 (3)
Student	1 (3)	6 (20)
Housewife or not employed (non-student)	5 (17)	19 (63)
Other	4 (13)	2 (7)
<i>Sexual partnerships and behaviors</i>		
Has primary partner, n (%)	29 (97)	30 (100)
Relationship to primary partner, n (%)		
Husband	20 (69)	4 (13)
Boyfriend	9 (31)	26 (87)
Frequency of condom use with primary partner, in general, n (%)		
Never	18 (62)	14 (47)
Rarely	2 (7)	1 (3)
Sometimes	7 (24)	6 (20)
Usually	0 (0)	0 (0)
Always	2 (7)	9 (30)
Had other partners in the past month, n (%)	13 (43)	10 (33)
Frequency of condom use with other partners, in general, n (%)		
Never	1 (8)	1 (10)
Rarely	2 (15)	1 (10)
Sometimes	3 (23)	2 (20)
Usually	0 (0)	1 (10)
Always	7 (54)	5 (50)

This percentage is high. The possibility of them (women) having sex is high. Shoo! [interviewer note: participant shows sign of shock] I think most people will start having sex. If a new person with money asks to have sex they would, because the chances of them getting HIV are small. (21-year-old, single woman from Pretoria)

PrEP alleviates challenges with use of condoms. Participants described several reasons related to challenges with using condoms to explain why women in their communities (or the participants themselves) would not use condoms or would be more likely to have sex with a new partner if they

were taking PrEP. Many participants said their partners do not like using condoms. Several spoke about trusting and wanting to please their partners and maintain their relationships. Participants' narratives suggested that condoms were or would be a source of conflict in relationships, and thus that PrEP would provide an opportunity to resolve or avoid this conflict:

The fact that it [PrEP] is 71% effective, I would not use condoms. As women we get tempted very easily. We like to satisfy our partners. If I insist that we use condoms then my partner would run away. We like to sacrifice ourselves and make our partners happy...If your partner does your hair,

buys you clothes, and does whatever you like, you want to keep him happy, so you won't use a condom. (27-year-old, married woman from Pretoria)

Narratives from several participants focused on partner familiarity, longevity, and love as reasons for stopping or not using condoms when taking PrEP. Even when faced with infidelity, participants described that women would often not use a condom with their partners if they were taking PrEP, in order to preserve their relationships with the men they loved:

...even if it [PrEP] is not yet 100%...we just think that we are protected and have sex without using condoms... This happens to us, the young woman, you just put your life in your partner's hands knowing that you can't trust him but, but you just take the chance because you love him. It [PrEP] is just like when you take your prevention pills [contraceptives]. You can have sex knowing that you are being protected. Sometimes your friends will tell you that your partner is cheating on you, but because you love him you will ignore all that and continue to have sex with him to satisfy him...they trust that PrEP will prevent them from HIV. That is why they are not using condoms. (25-year-old, single woman from Pretoria)

Narratives also focused on women's sexuality. Several participants said condoms were not pleasurable for women, and PrEP was perceived as a way women could enjoy sex while being protected against HIV:

Some women also say that if they use condoms they don't feel the sweetness [enjoy sex]...So if they are taking PrEP, they may have sex without condoms. So I think they can enjoy what they always say. (22-year-old, single woman from Bondo)

PrEP provides opportunity for financial gain. The potential for financial or material gain was woven into many of the participants' narratives as a motivating factor for discontinuing condom use with casual partners or for having sex with new sexual partners if taking PrEP. Participants perceived that having sex without a condom or having sex with a new partner was necessary in return for material goods and financial assistance or to ensure such assistance in the future, as alluded to in the excerpts from the data presented above. A 31-year-old, single woman from Pretoria elaborated:

These men are sometimes smooth talkers. They lie to us or sometimes it is an issue of money. When you say you want to have sex with him with a condom, he doesn't want. You are looking at the fact that he gives you money. So you will think that if you end up saying you want to use condoms, he might end up leaving you.

Among women who reported exchanging sex for money, financial gain was the primary reason, mentioned far more often than any other reason, for stopping condom use when using PrEP. Participants described that PrEP provides reassurance that women can be protected from HIV, while earning more money, when a client's status is unknown:

When taking PrEP, she will not use condoms because that person [client] has agreed to give her extra money on top of the amount she proposed if condoms are not used. So if she was taking PrEP, it would help her because she does not know this person's status...So if you are taking PrEP, I think you may feel that you are safe from acquiring HIV and you also receive more money. (22-year-old, single woman from Bondo)

Discussion

Oral PrEP provides an opportunity to reduce the risk of HIV infection among the many women in sub-Saharan Africa who are currently unable to, or who choose not to, use condoms consistently or at all. Among women who start taking PrEP and decide to reduce their use of condoms or stop their use entirely, PrEP will still provide substantial protection against HIV acquisition. Although women in the study were not taking PrEP at the time of the research, they recognized the benefits of having an additional, efficacious HIV prevention option available. Our findings illuminate, however, the need to provide guidance during HIV risk-reduction counseling on all options available that support women's overall sexual health when taking PrEP. Women can therefore make informed decisions when they initiate this novel HIV prevention product, particularly with respect to the prevention of pregnancy and several STIs in addition to HIV.

Participants' reasons for believing that they (and others) might stop the use of other HIV risk-reduction behaviors when using PrEP were based predominately on their valid experiences with the limitations of condoms, such as lack of pleasure when using them, difficulty negotiating their use, and condoms being a source of conflict within relationships. Women's negative experiences with using condoms formed the foundation for perceiving PrEP as a way to balance actions to protect themselves from acquiring HIV with actions to maintain couple harmony, avoid partner dissonance, satisfy their own sexual needs, and fulfill other needs that sexual partners provide in relationships. As such, participants perceived PrEP as an opportunity to overcome these challenges by discontinuing condom use or having sex with new partners, while still reducing their risk of HIV infection.

Coupled with the ongoing challenges of using condoms, participants' understanding of the high efficacy of PrEP—when taken regularly—strongly dissuaded them from perceiving the need for using other HIV prevention measures in addition to PrEP. Many therefore believed that PrEP alone would be a sufficient HIV risk-reduction strategy. Participants rarely volunteered the other benefits of using condoms, such as the prevention of pregnancy and other STIs. Relatedly, very few women in the study noted any limitations of PrEP, likely due to the newness of PrEP and their lack of experience with it. The gap in knowledge and experience between a known HIV prevention method (particularly a known product that is not widely liked, such as condoms) and a new, highly efficacious product (i.e., PrEP) demonstrates the need for providing accurate guidance, allowing women to decide what HIV risk-reduction approaches are best for them.

Issues related to relationship dynamics, condomless sex, and PrEP intentions have also been reported elsewhere. In a study among men who have sex with men in the United States, Gamarel and Golub²² described that men's intimacy motivations to have sex without a condom were associated with intentions to use PrEP. Koester and colleagues²³ report on the other benefits of PrEP—reduced stress, fear, and guilt—among men who have sex with men in the United States.

In addition, among the women in our study who reported selling sex for money, our findings suggest that PrEP may be perceived to have a financial advantage over condoms, as women believed they can remain protected from HIV while increasing the amount of money they receive from clients.

Other studies have documented that female sex workers have received client requests for or have agreed to engage in sex without a condom for more money.^{24–26} Ultimately, relationship dynamics and the other perceived benefits of PrEP—those beyond HIV prevention—must be taken into consideration when providing HIV risk-reduction counseling for individuals using PrEP. This approach will allow programs to provide better support of PrEP users' overall sexual health and well-being.

Our study had several limitations. First, because the participants did not have access to PrEP, their responses were based on hypothetical situations; women's practices of other HIV risk-reduction behaviors when they are actually taking PrEP may be different than reported here. The use of the vignettes, however, provided a distinct advantage over standard hypothetical questioning because participants considered their intentions within the context of risk situations that were grounded in local circumstances.¹⁷ Therefore, we believe these data are useful to justify the need for and to prepare for HIV risk-reduction counseling for women using PrEP.

Second, the qualitative interviews were conducted only with those participants whose survey responses indicated that they were more likely to reduce condom use or have sex with a new partner if they were to take PrEP. We therefore do not have comparable data among women whose survey responses suggested that their anticipated risk-reduction practices would not change or who might increase their use of other HIV protective behaviors when taking PrEP. Yet, the major concern with the introduction of PrEP is the potential implications from the reduction of other risk-reduction behaviors, not an increase in safer behaviors.

Third, our sample size of female sex workers was small. Nevertheless, our findings provide insight into an anticipated area of risk compensation that can be further explored when PrEP is rolled out among female sex workers. Fourth, we explored only HIV prevention; we did not ask about women's perceptions of the other benefits of condoms or partner reduction. HIV risk-reduction counseling can explore women's perceptions of the mix of novel and longstanding HIV risk-reduction practices and the hierarchy of benefits and concerns such practices provide.

Even though PrEP is highly efficacious when taken regularly,^{18,27} women who opt to use PrEP in the future will likely be encouraged to combine PrEP with other risk-reduction strategies for HIV prevention, particularly condoms. Multiple HIV risk-reduction strategies will be encouraged because consistent adherence to daily PrEP may be challenging, PrEP does not eliminate all risk of HIV, and condoms provide protection against pregnancy and STIs in addition to HIV.

Yet, counseling guidance must address the potential that some women who use PrEP may choose to discontinue using condoms, even if they are encouraged to continue using condoms with PrEP. Guidance must include strategies to support women's choices and their overall sexual health. Enhanced HIV prevention counseling among women is therefore needed to (1) explore how best PrEP can be incorporated into women's HIV risk-reduction strategies given a woman's current use (or non-use) of other HIV risk-reduction measures, (2) maximize adherence to PrEP among women opting to use PrEP, particularly among those who want to use only PrEP to reduce their risk of HIV, (3) minimize risk compensation among

women who may be inconsistent PrEP users, and (4) promote informed decision making on overall sexual health for women who want to use only PrEP or who cannot always use condoms when using PrEP (e.g., to establish a plan for preventing pregnancy, if desired, and other STIs).

As the last and final phase of our research, we are developing such counseling guidance, using the data from this study as the foundation. The guidance focuses on providing women with the information they need to make informed decisions about their sexual health when considering using PrEP, predominantly when consistent condom use may not be a realistic option.²⁸

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