

ORIGINAL RESEARCH ARTICLE

Factors Influencing Contraceptive Choice and Discontinuation among HIV-Positive Women in Kericho, Kenya

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Abstract

This study explored perceptions towards and utilization of contraception among HIV-positive, reproduction-age women in Kericho, Kenya, an area with high HIV and low contraceptive prevalence rates. Qualitative methods were used in three focus group discussions and 15 in-depth interviews to gather data from 46 HIV-positive women ages 18 to 45, purposively selected by age strata. Analysis was performed using ATLAS-ti (ATLAS-ti Center, Berlin). Most participants reported familiarity with modern contraceptives. Participants generally perceived that men opposed contraception. Some women indicated that their HIV status dictated contraceptive decisions, particularly with regard to abstinence. Women reported method discontinuation because of side effects, having met desired parity, and menstrual changes. Findings suggested that perceptions about side effects, opinions of the male partner, and HIV disease progression play important roles in contraceptive decisions. Counseling can dispel incorrect information and optimize contraceptive practice in this setting (*Afr J Reprod Health* 2010; 14[4]: 103-114).

Résumé

Facteurs qui influent sur le choix et l'interruption du contraceptif chez les femmes séropositives à Kericho, Kenya. Cette étude a exploré les perceptions envers l'utilisation de la contraception chez les femmes séropositives qui sont en âge de procréer, à Kericho, une région qui a un taux élevé de prévalence du VIH et un taux bas de prévalence contraceptive. On s'est servi des méthodes qualitatives dans trois discussions à groupe cible et 15 interviews en profondeur pour collecter des données des 46 femmes séropositives âgées de 18 à 45 ans sélectionnées de manière calculée d'après l'âge. L'analyse a été faite à l'aide d'ATLAS-ti (Centre d'ATLAS-ti, Berlin). La plupart des participants ont indiqué une familiarité avec les contraceptifs modernes. Les participants ont en général aperçu que les hommes se sont opposés à la contraception. Certaines femmes ont indiqué que leur état séropositif a dicté les décisions contraceptives, surtout à l'égard de l'abstinence. Les femmes ont signalé l'interruption des méthodes à cause des effets secondaires, ayant satisfait la parité désirée et des modifications menstruelles. Les résultats ont suggéré que les perceptions par rapport aux effets secondaires, les opinions du partenaire male et la progression de la maladie du VIH jouent des rôles dans les décisions contraceptives. L'assistance socio-psychologique peut dissiper l'information incorrecte et optimiser la pratique contraceptive dans ce milieu (*Afr J Reprod Health* 2010; 14[4]: 103-114).

Keywords: Contraception, fertility intentions, HIV, antiretroviral therapy, Kenya, qualitative methods

Introduction

Improved contraceptive access tailored to the needs of HIV-positive women has received increasing attention with expanded antiretroviral therapy (ART) coverage in many African countries.¹⁻⁴ High rates of unmet contraceptive need and unplanned pregnancy have been reported among HIV-positive women in Malawi, South Africa, and Uganda,⁵⁻⁸ leading to several proposals to test the integration of HIV and contraceptive services.^{3,9-11} HIV status may, however, be only a minor consideration among the variety of factors that impact contraceptive use

and choice.^{12,13} As the movement toward integration of contraceptive provision and HIV care progresses,¹⁴ the social and cultural context of women's needs and reproductive rights must be considered to maximize the impact of counseling and services.^{15,16}

Kenya has an established generalized HIV epidemic with infection occurring predominantly through sexual transmission.¹⁷ Data from 2007 show that young Kenyan women ages 20 to 34 had the highest HIV prevalence among measured sex and age groups, indicating that infection tends to occur at a young age and will likely impact subsequent fertility decisions.¹⁸ ART has been

available since 2004, with estimated coverage of 40.5 percent of those eligible (CD4_≤250) in 2007.¹⁸ Kenya experienced a substantial drop in total fertility rates (TFR) between 1970 and 1990, with TFR falling from 7.6 to 5.6.¹⁹ In the last decade, however, there has been little change, with rates of 4.7 reported in 2000 and 4.6 in 2009.¹⁹ Though reversible contraceptive methods, including oral contraceptives, injectable hormonal contraceptives, intrauterine devices (IUDs), and subdermal implants, are available at no cost through government health facilities, the contraceptive prevalence rate (CPR) remains relatively low (39 percent) compared with the CPR of developing countries globally.²⁰

Recent studies report low contraceptive use rates among HIV-positive women in Kenya, despite stated desire for no future fertility.^{10,21-23} The majority (60 percent) of HIV-positive women interviewed in the Kenya AIDS Indicator Survey had an unmet need for family planning.¹⁸ Among an urban Nairobi population of HIV-positive women, Mutiso et al. noted that though 86 percent did not desire a pregnancy in the next two years, only 44.2 percent were using a contraceptive method.²² Of couples practicing contraception, male condoms were used by 81.5 percent; only 16.6 percent of the women used another contraceptive method.²² Access to contraception was considered limited since less than 10 percent received methods from a government center, compared to 42.9 percent receiving methods from the private sector.²² Male partner attitude was identified as a barrier to contraceptive use for women with unspecified HIV status with long-term partners in a diaphragm study in Mombasa.²⁴ Women aware of their HIV status faced similar opposition from their partners. In western Kenya, only 44 percent of 146 HIV-positive women used a contraceptive method postpartum. Awareness of HIV status did appear to make a difference in condom use, which was not included in the analysis of method use. Sixty-five percent of HIV-positive women whose husbands were aware of their status reported condom use compared to 13 percent of those whose partners were unaware of their status; 55 percent of those using a contraceptive method also used condoms.²³ Among 319 postpartum HIV-positive women in Nairobi who were completing 12 months of follow-up, 231 (72 percent) used a hormonal contraceptive method for at least two consecutive months.²⁵ Method discontinuation occurred among 10 percent of the population; side effects were the most common reason, but partner disapproval and ending of the partnership were also stated reasons.²⁵

These prior studies provide little qualitative information regarding factors influencing method choice and discontinuation among HIV-positive women in Kenya, the subject of the present study.

Its purpose is to explore the perceptions toward and practices of contraception among HIV-positive women in Kericho, Kenya. This assessment is part of a larger multisite study including sites in Rio de Janeiro, Brazil, and Soweto, South Africa, whose results may guide contraceptive counseling efforts better tailored to HIV-positive women.

Methods

Setting

Kericho District, in western Kenya's Rift Valley Province, has a population of approximately 469,000, with the economy supported largely by commercial tea and flower farms. HIV prevalence among adult women ranges from 17.4 percent to 19.1 percent.^{26,27} In Rift Valley Province, the CPR in 2003 was 34 percent; modern methods are available at no cost through the government health system, and pregnancy termination is legal under extremely limited circumstances.²⁸ The Walter Reed Project, in collaboration with the Kenyan Ministry of Health, has provided ART through PEPFAR since 2004.²⁹ Kericho District Hospital is the largest public care facility in the western Rift Valley region and serves a catchment area population of 2.5 million people, with 40,000 currently enrolled in HIV care and 18,000 receiving ART.

The study was conducted through clinics at the Kericho District Hospital, which provides clinical care for HIV-positive individuals and works in conjunction with the Walter Reed Project on a variety of clinical trials.

Eligibility

Eligible participants were HIV-positive women between the ages of 18 and 45 attending Kericho District Hospital adult and postpartum HIV clinics, and able to provide informed consent. Participants were purposively selected by age, with three defined strata: ages 18–22, 23–30, and 31–45. Study activities were undertaken with approval from the institutional review boards of KEMRI, the Walter Reed Army Institute of Research, the University of California, San Diego, and the Columbia University Medical Center.

Focus Group Discussions

Focus group discussions (FGDs) were based on a field guide and focused on the main themes surrounding the topic of interest. Since the same field guide had also been used at the Brazil and South Africa sites, it was pre-tested with a group from the Kericho clinics to ensure that question phrasing was appropriate in this context. Study

personnel consented 12 participants for each age strata and contacted each with the appointed FGD date. Interviews were conducted by a moderator with a session recorder present to capture nonverbal communication and areas of group consensus and disagreement. All interviews were conducted in Kiswahili, audio-recorded, and translated into English. Investigators reviewed the transcripts to develop in-depth interview questions.

FGD Question Content

FGD questions addressed women's attitudes toward fertility and contraception, and the impact of HIV and partnership on these attitudes. Concepts identified in the pilot session as unique to the Kenyan context were probed in FGDs. Contraceptive use and factors affecting choice were also assessed, including perceptions regarding method efficacy, side effects, and desired features. The attitudes of the male partner were specifically queried.

In-Depth Interviews

In-depth interviews (IDIs) were conducted among 15 women, with five from each age stratum. IDIs, approximately 60 minutes in length, further explored themes from the FGDs, and were audio-recorded with only the interviewer and participant in the room.

IDI Content

The IDI guide utilized the "grand tour" approach, in which the participant is asked a broad question to encourage her to speak openly about the topic. This approach assessed knowledge of and attitudes towards menstruation, contraception, and desired method characteristics. The "grand tour" question bounds the interview while still encouraging detailed responses from the participant.³⁰ Probe questions were placed after each grand tour question in the IDI guide to remind the interviewer of specific issues to be addressed if not spontaneously raised by the participant.

The grand tour exploratory statements were, : "Tell me everything you can about menstruation;" "Tell me everything you know about contraception;" and "Tell me everything you think about a perfect contraceptive method. Issues specific to the Kenya site included the effect of various contraceptive methods on libido. Other IDI questions invited participants to share their perceptions of the meaning, significance, and feelings around contraception and amenorrhea; how women construe men's perceptions of contraception and menstruation; and how women's HIV status affects contraceptive choice.

Data Collection

Interviewers, session moderators, and session recorders were female professionals with prior study experience who received training in human subject research and qualitative methods. Potential participants were identified at the time of their clinic visit based upon chart screening for age. They were then invited to a private room where a clinic provider introduced the study interviewer, who briefly described the study and obtained written informed consent. Participants were then asked to complete a standardized screening questionnaire about obstetric history, partnership status, and contraceptive use, and to set a date with study staff to take part in either a focus group discussion or an in-depth interview. All sessions were audio-recorded, as specified in the informed consent process. Participants received a stipend for transport costs not advertised before informed consent.

Data Analysis

The translated transcriptions of the audio-recordings from the FGDs and IDIs were entered into ATLAS-ti (ATLAS-ti Center, Berlin). Transcripts were coded using an inductive approach in which the codes and codebook emerge from the data.³¹ These codes were then grouped into themes.

Results

Demographics

Demographic information on the 46 participants (31 in FGDs and 15 in IDIs), who had a mean age of 31.8 years and mean 2.5 pregnancies, is presented in Table 1. Many participants reported familiarity with oral and injectable hormonal contraceptives, subdermal implants, male and female condoms, periodic abstinence, withdrawal, and intrauterine devices (IUDs). Traditional methods, such as herbs, were mentioned by a few participants as was abstinence within a partnership. Emergency (postcoital) contraception was not mentioned by any participant.

Female Perceptions toward Contraception

Women had mostly positive attitudes toward contraception, and few reported never having used a method. Contraception was seen as a means of limiting family size and optimizing care for children in the house.

Women feel that family planning is the best way of caring for their children. You know it will give you the right number but it depends

Table 1: Demographic data for HIV positive female participants of focus group and in depth interviews from Kericho, Kenya (n=46).

Variable	N (%)	Mean, SD	Range
Age (years)	46	31.84, 7.13	21-46
Total pregnancies	115	2.39, 1.24	0-6
Married	20 (43.5)		
Never married	10 (21.7)		
Widowed	7 (15.2)		
Separated/Divorced	9 (19.6)		
IDs Only (n=15):			
Using ART	8 (53.3)		
Opportunistic infection prevention	4 (26.7)		
No ART	3 (20.0)		
Current contraceptive methods:			
Bilateral tubal ligation	2 (13.3)		
Depo Provera	3 (20.0)		
Oral contraceptives	2 (13.3)		
None	5 (33.3)		
Abstinence	1 (6.7)		
Male condom	3 (20.0)		
Time since HIV diagnosis (years)		4.67, 2.94	0-12
Total living children		2.47, 1.81	0-5
Miscarriages		0.13, 0.52	0-2
Child deaths		0.27, 0.59	0-2

on the individual. IDI, age 39, 3 children, single

helping those women who are HIV- positive. IDI, age 45, 4 children, married

Often, support for contraception was limited to a specific method based on prior experience or word of mouth or by process of elimination based on perceived side effects.

In summary, women had positive attitudes toward contraception, with their HIV status increasing its importance. A variety of factors determined actual method choice and use.

The perfect birth control method should be Norplant. I have not heard women complain about it. IDI, 37 years old, 2 children, widowed

Male Partner Attitudes toward Contraception

HIV status also affected support for contraceptive method use, with many participants expressing either their intent to use or their decisions to change the method due to HIV diagnosis.

Many participants commented that the male partner had a strong influence on contraceptive choice and fertility desire. The male partner's attitude toward family planning was generally considered negative. Participants believed that men were fundamentally opposed to anything interfering with their childbearing ability.

When we are talking of HIV we are still human beings though we are HIV- positive so when I talk of a way of trying to look for birth control methods for those who are HIV- positive, I can only think of one which controls birth and re-infection. When we are talking of HIV, reinfection should be the first thing to think of and I think that if there can be a way we have a multipurpose birth control method, it would be very good in

I just feel that if the man is rough, or he doesn't understand and you....You know some women who family plan do it secretly and men don't like it. They say that they want children and yet a woman is the one who is going to bear that burden. So other women do this secretly. IDI, age 39, 3 children, single

My husband does not like the idea at all. I got a pamphlet which I gave him to read and

he asked, "If you go will you be given these family planning drugs?" I told him now I am just going to the clinic for information. "That is ok," he said, "only if it is information but being given those drugs I will not allow that because I'm the one who knows the problems the drugs will give you, you don't." So on my part my husband does not approve of family planning at all. FGD, age stratum 18–22

The participants also reported that men would oppose contraception if they did not yet have a male child:

So if you said you don't want to conceive, you will get into trouble with your husband. He will say he wants a son and if I don't want he will marry another wife. FGD, age stratum 23–30

The importance of the male child, among other factors, was perceived to affect marital stability as women relayed their concerns about the possibility or threat that a husband would get another wife if they disappointed him. This concern—as well as anxieties about spousal disapproval in general—led several women to discuss measures for using contraception covertly, potentially influencing method choice:

One should go to the clinic, maybe get the injection and keep your card safely because there are some men who would look for it and if they find it will cause chaos in the house. FGD, age stratum 23–30

The following sub-themes emerged relating to the male partner's perceptions toward contraception: lack of sexual pleasure and refusal of sex.

Contraceptive Interference with Sexual Pleasure

Many participants perceived that their male partners were unsupportive of contraceptive use because the methods reduced the pleasure experienced during sex due to decreased sensation (in the case of condoms), decreased female libido (in the case of hormonal contraceptives), and odd sensations during sex (in the case of IUDs):

There are a big percentage of men also who dislike the use of condoms. There is a program, I used to listen to at a friend's shop and I would see few buying condoms and most of them without using. People believe "you can't eat biscuits with their wrapper" (laughter). They don't care if they can

impregnate one or even infect somebody. FGD, age stratum 31–45

The injection usually removes the urge for a man so you will not play [have] sex with the man the way he wants when he wants you to have sex you are not in the mood, you don't feel well yet he wants you to be with him. So it makes him think there is something wrong between the two of you. FGD, age stratum 23–30

The coil is good but it depends, on my part my husband did not like, he would complain about the thread hanging from my private part, I used because I felt it would help me not get pregnant but my husband's side he did not like it so I decided instead of being in conflict at home let me stop using it. FGD, age stratum 23–30

The women's statements and their perceptions of their male partners' disapproval for a specific method were often cited as reasons for discontinuing or not using a specific method.

Ability to Refuse Sex

Participants reported that generally they were unable to refuse sex with their male partner. Exceptions did occur, however, such as during menstruation (sometimes) or when the woman was "unprepared," and the couple had decided to use condoms to prevent reinfection or protect a male HIV-negative partner. Participants reported that refusal to have sex could result in the male partner's seeking sex elsewhere, violence, or abandonment. Overall, sex was seen as "natural" for a wife/partner—an essential and expected part of the relationship:

It is impossible [to refuse sex] because it is partly leisure when you are in the house with a husband or a partner, this is something natural, because if you don't allow it in the house, a man will go out and you will be left and after that you start quarrelling and you are the cause. FGD, age stratum 18–22

Being HIV-positive changed this dynamic to some degree as women became more assertive with regard to condom and contraceptive use.

Yes I cannot (except) only when I am on periods alone but also when I'm not prepared. When I talk of not being prepared, since I am HIV-positive, I see to it that I am protected before I involve myself in sex. So before I bring my protective

equipment I can say no and thus in a position to turn my partner down. IDI, age 45, 4 children, married

I did it. I cannot do it now but I did it. I turned him down with a reason. I wanted to do family planning and he refused. He just wanted us to bear children as if we don't think. So I decided to go by my opinion, when I refused (sex) he ran to other women and I decided to remain alone. IDI, age 39, 3 children, single

In summary, the perceived opinions and anticipated actions of the male partner and the subordinate status of the woman appear to influence contraceptive use and choice more than side effects.

HIV Status

Positive HIV status was stated as a reason for contraceptive method choice and use. Many participants believed that methods increasing menstrual bleeding were detrimental to their health by causing "weakness."

Interviewer: So...what would HIV-positive women think about, when deciding which birth control method to use?

Participant: HIV+ women will consider this in mind, for example, the blood flow. When choosing they have to consider that flow. If you use a method and you see that you bleed a lot, that weakens you, but if it comes just as usual, it doesn't affect.

Interviewer: Anything else?

Participant: Other women say that HIV-positive women are now very weak....If they go into menstrual flow they will just die quickly. But in the real sense, I don't know if it can make one die quickly. IDI, age 39, 3 children, single

These statements ran counter to the common perception that menstrual bleeding was essential for HIV-positive women as it reduced viral load:

A woman who is HIV-positive when they receive their menses, the level of blood in their body reduces. Another advantage is that the virus gets out of their body through menses. Men die very fast when they are HIV-positive because they can't menstruate and the viral load is high. IDI, age 39, 3 children, single

Other methods were specifically mentioned as interacting with ART, either based on provider or peer report:

As for me after my firstborn, I used Depo after which my body deteriorated, so I went for a test and I was positive, so the doctor asked what family planning method I was using I said Depo. I was asked to stop using that method which I did. So I continued having menses. I got pregnant again, but the child I delivered was not positive. I asked the doctor what I would do, as my first child is positive while the second one is negative, so how could I be helped to plan my family yet I could not use Depo. I asked if he could choose for me a method. He decided I could use Norplant because after examining me they said I could not use pills. I am now on Norplant and I don't have a problem. FGD, age stratum 23–30

However, some women did not think HIV status made a difference in method selection.

Interviewer: What would HIV-positive women think about deciding which birth control method to use? Would it be different for HIV-negative women?

Participant: They usually have a good objective of wanting to plan for a small family that they can take care of and be in good health.

Interviewer: Would it be different for HIV-negative women?

Participant: There is no difference. IDI, age 25, no children, married

The discussions brought up the sub-theme of medical provider input when determining contraceptive choice. Participants receiving ART frequently commented that medical providers had advised against hormonal methods, particularly oral contraceptives, because of interactions with ART.

In summary, the perceived interaction of contraceptive method and HIV-related health concerns influenced the choice of contraceptive, specifically regarding menstrual flow and perceived negative interaction with ART.

Side Effects

In addition to the influence of male partner attitudes and HIV status, perceived and experienced side effects were important determinants of contraceptive method choice. Overall, participants reported negative side effects linked with all methods. For hormonal methods—oral contraceptive pills, injections, and contraceptive implants—side effects included changes in blood

pressure, fatigue, weight gain, changes in menstrual flow, changes in libido, and difficulty having children after stopping.

"When I used to experience menses I would feel very nice, I would not experience back or lower abdominal pains but when I started using Depo, now there is no blood and I feel very bad." FGD, age stratum 18 - 22, 0 children (2 died from AIDS)

Though few participants had direct experience with IUDs, most had a generally negative view of this method because of concerns that either the IUD would dislodge and enter the stomach or womb, or the male partner would detect the device during intercourse. Two women comment:

It [the coil] is a bad method because during intercourse if your male partner uses force during the act he can push it inside the stomach (womb). IDI, age 31, 4 children, widowed

If you are married but secretly go and have a nurse insert the coil, while playing sex your partner will feel something scratching him when he asks you say you don't know, this will cause friction between the two of you, that is what I have to say about the coil. FGD, age stratum 23–30

Other methods mentioned as having side effects included surgical sterilization, withdrawal, and traditional methods, principally herbs. Each method has negative side effects attributed to it:

The method of cutting tubes (TL) because sometimes the wound does not heal and it develops pus; one could even infect their partner, so they at times fear it. FGD, age stratum 23–30

Some people say it is good while others say it has side effects. If a woman does TL, she will not get children again. This method makes a woman to be feeling bad all the time. IDI, age 25, no children, married

Withdrawal is with somebody who has a husband in the house, but this method is not the best if men cannot accept it because they will say do I have a human being or a tree? Somehow you can get a very harsh man who cannot even control you and if you refuse he'll tell you I'll have another one out. IDI, age 34, 1 child, widowed

Some participants described their contraceptive history, with method change dictated by side effects.

OK. Before I was tested, I used pills—swallowed after 28 days. But they gave me a lot of trouble. For example, I could bleed a lot. I later began to use Depo and it made me put on a lot of weight. I stopped that and used the copper T IUCD. The person who fixed it for me was a student at Kisumu. The string that hangs out disappeared. I went through scanning and it was removed. From that point to when I was tested I used pills. But when I was tested, I was advised against using the pills because it does not go well with ARVs. They advised me to use Norplant which I'm awaiting. FGD, age stratum 23–30

Occasionally, participants were able to continue a method if medical providers could resolve the most troublesome symptoms.

As for me about 7 months, I would get headaches, nausea, and fatigue so I went and told the doctor after which I began using Depo. On the 1st month after beginning Depo I bled a lot, I saw the doctor who told me that it was normal to bleed that way because I had just begun on the method. He told me to use the method again and if the bleeding persisted then he would change to Norplant. So when I used the method a second time I did not bleed only my menses stayed for a long time about five months, without experiencing my menses or on the day I experience it was for a day and the flow would be little. So I am still happy with the injection [Depo]. FGD, age stratum 23–30

Participants were willing to accept peer commentary regarding potential side effects in rejecting either certain methods or family planning in general. Conventional wisdom attributed unusual side effects, like "uterine growths," birth defects, or subsequent infertility, to contraceptive use.

Others say that family planning causes growths. Growths in the uterus cause a lot of problems to a woman. You lose weight, in case you want to give birth, that child's head may be extra large or you may not have a child. They believe such things. FGD, age stratum 18–22

On my part I have not tried all the methods mentioned, I had a neighbor who used pills she would spend the whole day sleeping complaining of headache and other pains, by this time I already knew my status, so I said to myself if I use pills I will add one

problem onto another so I was not comfortable about using pills. Then about the injection, I had a friend who used the method and would bleed from the beginning of the month till the beginning of the next month so I got scared. On my part, I use the condom. FGD, age stratum 23–30

Yes, if you use the method very much. For example, you might find some young girls using family planning methods while still young. So when they get a man to marry, they do not get children because of overusing some methods. So I think that is the problem with family planning. FGD, age stratum 18–22

Some participants made a distinction between the experiences of others and their own contraceptive choices.

It's only that people tell you something, but they have no experience. They advise you that the method is bad; for example the one of being cold, before I started using the injectable method, some lady mentioned it to me it made her husband leave her. But on my part, I haven't experienced that. FGD, age stratum, 31–45

In summary, both experienced and perceived side effects influenced contraceptive method choice and continuation.

Determinants of Method Discontinuation

The predominant reason stated for changing methods or discontinuing a method was physical side effects. Most side effects prompting method change were associated with changes in menstrual bleeding patterns, usually due to excessive bleeding.

I have used injectables. I used to get an injection every three months, but it gave me side effects—bleeding; sometimes I could bleed even for 1 month. Sometimes backache until one day I just decided to change the method to pills. IDI, age 38, 4 children, married

Some participants reported disliking cessation of menstruation:

Moderator: When you missed your menses were you comfortable?

Participant: I never liked it so much (laughs), but I thought it (injection) was the best method because I didn't want to conceive.

Moderator: Are you on another method now?

Participant: I have not tried any other method.

Moderator: Does this mean there is something you disliked about this method?

Participant: Yes, stopped menstruation. FGD, age stratum 31–45

The significance of menstruation and whether amenorrhea was an acceptable side effect of contraception emerged as a sub-theme within this discussion. This concept was greeted with mixed reactions:

I have been using Norplant, the one for three months. I liked it because I stopped menstruation and I was happy because it had no side effects unlike the pills which you swallow every day. FGD, age stratum 31–45

I think a method that completely stops the bleeding like Depo when you don't experience your menses your body changes. You are healthy because you don't menstruate. Also if you are on your pees (slang term for menstruation), you avoid such things (laughs)...So, the advantage is you remain healthy because you stop the blood from flowing, when it flows you lose weight. FGD, age stratum 18–22

Let me take you back, as per the creation of human beings, receiving menses means that one has the ability to give birth or began or become pregnant. And because one is using family planning method, it should not interfere with the ability to receive your menses normally. It should only interfere with conception. My receiving my menses normally is preferable so that I get to know that I am able to conceive when I decide to stop using it, compared to if I get no menstruation. I will think that maybe the method that I am using has affected my being able to give birth later. FGD, age stratum 31–45

Menstruation was seen as a normal process and an indicator of health by many participants. Several relayed experiences that oligo/amenorrhea was an indicator of advancing HIV disease:

For me, when I began getting sick my periods reduced. It would last two days, would sometimes disappear and change color...it was very light...It wasn't normal, but when I started treatment, it went back to normal. The drugs were accepted by my body and the periods normalized...it would be there for three days and I would

experience it after 28 days...normally. FGD, age stratum 31–45

As for me there was a time my periods just stopped completely. I had not known my status; my periods stopped for about a year, so I asked myself, "What is this?" My body deteriorated, I was unable to carry things, I was alarmed and said, "What shall I do?" So I asked my friend if it was because of the injection and they told me it was not because of the injection, but maybe something in my body. It is just like my colleague has said, I also got weak, it deteriorated for two years. I did not see my periods, yet I used to have them normally, and I already got a child so I was wondering what problem this was. FGD, age stratum 23–30

Participants also mentioned a cultural drawback of amenorrhea: the Luo belief that a woman should not stop menstruating before her mother-in-law. However, amenorrhea was perceived to be advantageous with regard to HIV disease:

Menstruation reduces the viral load because some viruses are passed out of the body during bleeding, others remain in the body awaiting the next cycle. CD4 count will go up because one is bleeding, the virus is passed out so one remains clean during this time the CD4 rises. If you don't receive your menses CD4 goes low. IDI, age 31, 4 children, widowed

Menstruation was also seen as necessary to get rid of "dirty blood" and establish one's ability to conceive.

It means a lot for health because when it doesn't come out, it can infect you, it can cause discomforts....When a woman menstruates, a man becomes happy because she's able to bear a child, but when you don't they get worried are you abnormal or normal? IDI, age 34, 1 child, widowed

However, a few participants commented on positive aspects of amenorrhea or negative aspects of menstruation. Among the most common opinions were that bleeding may weaken their bodies and that men would be happy because they could have sex anytime:

I would say from my community they would accept such a method (contraception causing amenorrhea) because the way the

world is, the cost of life has gone up so if she does not menstruate she goes about her chores while at peace with strength because when she menstruates she loses weight so if she can use a method that stops her menses it will help her because this mother will have strength to do her chores as normal. FGD, age stratum 23–30

Other commonly stated reasons for discontinuation were desired fertility (prior to HIV diagnosis), dissolution of partnerships due to death or elective separation, and inconvenience of methods (e.g., having to remember a daily pill).

In summary, issues of convenience, side effects, and changes in the menstrual cycle were given by participants as reasons for the discontinuation of a contraceptive.

Medically Inaccurate Beliefs

In addition to perceptions that menstruation leads to decreases in either viral load or CD4 lymphocyte count, a number of other medically inaccurate beliefs were stated, emerging as a theme that likely contributed to method choice, though these concepts were not directly linked in conversation to method choice. Some beliefs, such as menstruation being the best time for conception, were stated by several women.

Some conceive when they have intercourse during menses, others may not conceive during this time. Other women say that whenever they are on their menses it's a must that they sleep in separate beds so that they don't conceive, others prefer to sleep in one bed because during this time ...their libido is high so they sleep in one bed so that they can have sex with their partners. IDI, age 22, 1 child.

In addition to previously-mentioned medically-inaccurate negative perceptions of IUDs, a few participants mentioned incorrect information that may detrimentally affect choice of the IUD.

If you have inserted the coil and someone wants you by force and they have STDs if the coil is there it can prevent you from those diseases. FGD, age stratum 18–22

In summary, medically inaccurate beliefs about fertility and the interaction of contraceptive methods with ART were held by some of the participants.

Discussion

Participants had a positive impression of contraception overall and indicated that HIV status heightened their commitment to using a contraceptive method. This finding has been noted among HIV-positive women, particularly those with children, in Zimbabwe and deduced from contraceptive use patterns among HIV-positive women in Rwanda and Malawi.^{6,32,33} Generally, participants were aware of modern methods with the exception of the IUD and emergency contraception; similar knowledge gaps have been noted among women in Zambia and Rwanda.¹³ Knowledge of a particular method was often based on popular perception rather than direct experience, forming a barrier to objective consideration of available methods.

The perceived importance of the male partner's opinion in contraceptive decision making is consistent with observations elsewhere in Kenya and at our other study sites.^{5,24,34} Decisions regarding concomitant use of condoms and other contraceptive methods are largely made in consultation with, if not by, the male partner. The strong beliefs regarding the role of the partner in any decisions relevant to the woman may stem from the subordinate role of the woman in marriage and the man's ability to have multiple wives or partners. Women traditionally ask their husbands about family planning because if the man finds out that the woman has accessed contraception without consultation, he may conclude that the woman is being unfaithful. The equation of any contraceptive use with infidelity was also noted at the South Africa site; women in Soweto mentioned the need for or use of an undetectable method (e.g., injectables) to circumvent potential conflict.⁵ This need for a hidden method has also been noted in other settings, and may reflect a difference in gender roles for urban women.^{13,24,33} Further exploration of and sensitivity to factors affecting contraceptive decision making are needed in this setting to optimize contraceptive counseling. Number and sex of children were also mentioned as factors impacting the attitudes toward family planning. The participants perceived that their male partners would not want to stop having children if there were only girl children because of the cultural value placed on male offspring and patrilineal heritage.

HIV status was also stated as a factor in specific method choice. Concerns that anemia may be associated with excessive menstrual blood loss or that amenorrhea may be a sign of HIV progression are reasonable. However, the popular belief that menstruation would allow either viral load (positive) or CD4 lymphocyte count (negative) to decrease each month is erroneous. The source of these beliefs was unclear, but medical professionals

should be aware of these potential barriers to the use of highly effective hormonal methods, the methods most likely to cause altered menstrual patterns. Like women at the South Africa site, Kenyan women equated menstruation with health and appeared to be more aware of and willing to tolerate contraceptive-induced amenorrhea.³⁵ Kenyan women were more likely to raise concerns about specific contraceptive methods interfering with ART efficacy, possibly reflecting its longer history in this setting.

Perceived or experienced side effects were frequently cited as reasons for method choice and the leading reason for discontinuation; 28.7 percent of Kenyan women who discontinue a method give side effects as the reason.³⁶ Two separate studies noted high rates of method discontinuation among HIV-positive women in Zambia.^{37,38} In one of the Zambian groups studied, the predominant reasons given for discontinuation were desired fertility and side effects; rates of discontinuation were not affected by a counseling intervention.³⁸ Participants did not explicitly mention desired fertility as a reason for discontinuation; however, the few women who did mention wanting to become pregnant in the future indicated they had elected not to use any method until desired family size was achieved. Method choice may have been limited by conventional wisdom regarding some methods, for example, the story that an IUD can be dislodged during coitus and migrate through the body. Most participants received contraceptive information from the community, and there was little mention of discussion of family planning with providers. We did not specifically ask about information obtained from or willingness to address reproductive health issues with care providers, partly because the current structure of care in Kericho—with separate clinics for HIV and reproductive health care—makes it difficult to delineate the information source. This division of care may form a barrier to the accessibility of contraceptives, potentially increasing the weight given to peer experiences with certain methods. Further study is indicated to determine the best scenario and approach to contraceptive service provision for HIV-positive women in Kericho.

Cultural practices or inaccurate beliefs may impair correct use of some contraceptive methods, particularly periodic abstinence. Some beliefs, such as fertility being highest during menstruation, may also increase the risk of HIV reinfection. A commonly held belief is that a couple should try to conceive on the last day of a menstrual cycle because all the "bad blood" has been removed. Participants from the Luo ethnic group described the practice of coitus during menses to achieve conception, potentially contributing to the higher HIV prevalence noted among this group in previous studies in Kericho and other settings in Kenya and

Zambia.³⁹⁻⁴¹ Popular misconceptions may also prevent utilization of highly effective methods, such as IUDs. These misconceptions should be considered in efforts to improve family planning uptake in the Kenyan context.

Our study has several limitations, including lack of comparative groups of HIV-negative women and a small sample limited to clinic attendees. We attempted to reduce the effects of these limitations by asking participants not only about their experiences and thoughts but also about how they thought others in their community would respond to the questions. To attempt to control for the possible limitation of social desirability, we employed female staff to lessen inhibition and nondisclosure bias. Focus group dynamics may have created a deference bias that we were not able to detect. Overall, the findings of the focus groups and the interviews are consistent. We note that there were a relatively large number of widowed participants (as compared to other study sites), many of whom reported current abstinence. Widows may have a different perspective on contraceptive needs and have different use patterns, particularly in a setting where participants perceived male partner input to be a key factor in contraceptive choice and use.

In conclusion, our findings reflect the multifactorial aspects of contraceptive decision making among HIV-positive women, with several aspects unique to the Kericho setting. Women's ability to negotiate contraceptive use may be limited; providers should consider gender roles when discussing method choice with patients. During counseling, providers also need to be aware of their patients' concerns about side effects, in order to select the method best matched to the patients' needs. Broadening the education of women and their partners and mounting public awareness campaigns to replace peer information sources, which are apt to circulate inaccurate information about contraceptive methods, with reliable ones, are important goals.

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