HHS Public Access

Author manuscript

Sex Reprod Healthc. Author manuscript; available in PMC 2017 December 01.

Published in final edited form as:

Sex Reprod Healthc. 2016 December ; 10: 35–40. doi:10.1016/j.srhc.2016.03.005.

Client and provider knowledge and views on safer conception for people living with HIV (PLHIV)

Deborah L. MINDRY[1], **Cecilia MILFORD**[2], **Letitia GREENER**[2], **Ross M. GREENER**[2], **Pranitha MAHARAJ**[3], **Thabo LETSOALO**[3], **Chantal MUNTHREE**[3], **Tamaryn L. CRANKSHAW**[4], and **Jennifer A. SMIT**[2,3]

[1]Center for Culture and Health, Semel Institute, University of California, Los Angeles, USA

[2]MatCH Research (Maternal, Adolescent and Child Health), Dept. of Obstetrics and Gynecology, Faculty of Health Sciences, University of Witwatersrand, Durban, South Africa

[3]School of Built Environment and Development Studies, University of KwaZulu-Natal, Durban, South Africa

[4]Health Economics HIV/AIDS Research Division (HEARD) University of KwaZulu-Natal, Durban, South Africa

Abstract

Objective(s)—The childbearing needs of people living with HIV (PLHIV) and the experiences of healthcare providers serving them are explored. We examine provider and client knowledge and views on safer conception methods.

Methods—The study uses exploratory qualitative research to understand provider and client perspectives on childbearing and safer conception. Interviews were conducted at 3 sites (1 rural, 2 urban) in eThekwini District, KwaZulu-Natal, South Africa between May 2011 and August 2012, including in-depth interviews with 43 PLHIV, 2 focus group discussions and 12 in-depth interviews with providers.

Results—Clients had little knowledge and providers had limited knowledge of safer conception methods. While clients were eager to receive counseling on safer conception providers had some hesitations but were eager to receive training in delivering safer conception services. Clients and providers noted that biological parentage is a major concern of PLHIV. Clients were willing to use any of the described methods to have biological children but some expressed concerns about potential risks associated with timed unprotected intercourse. Male clients required access to reproductive health information.

Corresponding author: Deborah Mindry, UCLA Center for Culture and Health, Semel Institute, 760 Westwood Blvd., Westwood, CA 90024. dmindry@ucla.edu.

Conclusions—Providers need to routinely initiate discussions with clients about childbearing intentions. Providers need to be enabled with approved guidelines and training to support client access to safer conception methods.

Keywords

safer conception; childbearing; people living with HIV; health care providers; South Africa

INTRODUCTION

Supporting the fertility desires and reproductive health needs of people living with HIV (PLHIV) is an important reproductive health right and key issue in the HIV prevention agenda [1,2]. A growing body of research has demonstrated that many PLHIV wish to (and will have) biological children and has established the need for routine safer conception (SC) services to reduce associated HIV transmission risks [3–7]. In a context of high HIV prevalence, research in South Africa has reported between 29% and 57% of PLHIV desire biological children [8–11]. The 2012 antenatal survey reported a national HIV prevalence of 29.5% among pregnant women with a prevalence of 37.4% in KwaZulu-Natal [12]. Despite this, there remains limited understanding of provider perspectives of SC methods, as well as what SC methods clients would be willing to utlize.

HIV prevention messaging continues to dominate the reproductive health service landscape for PLHIV, with an emphasis on condom use to prevent HIV transmission and to avoid unintended conception [13]. Supporting PLHIV to have children without transmitting HIV to their partners or future children is largely lacking [10,14,15]. Preventing mother to child transmission of HIV (PMTCT) has been an important first step in addressing the risks of vertical transmission associated with childbearing [16,17]. A critical next step is addressing the risks of horizontal transmission among HIV serodiscordant partners who are trying to conceive [6].

In 2011 the South African HIV Clinician's Society published clinical guidelines recommending SC be part of routine HIV care [18]. These guidelines, which have yet to be systematically implemented, outline low cost SC methods (most likely to be implemented) which include the use of ART (antiretroviral treatment) by the infected partner, with timed unprotected intercourse for an HIV-positive male with a negative female partner or HIV concordant couples, and manual self-insemination during ovulation for an HIV-positive female with a negative male partner utilizing his collected sperm sample [19]. Sperm washing with insemination or in vitro fertilization is a high cost, no risk option for an HIV-positive male with a negative female partner [20,21]. This paper explores health provider and client knowledge and views on these SC methods.

METHODS

This study was conducted at three antiretroviral treatment (ART) clinics in eThekwini District, KwaZulu-Natal, South Africa, between May 2011 and August 2012. Since this was exploratory research, we selected clinics in different settings to ensure a range of experiences, knowledge and views on SC among PLHIV and the healthcare providers

serving them. One clinic served a large rural community, and the other two were urban clinics - one served a lower income population (urban clinic 2) and the other (urban clinic 1) a more economically diverse population.

The clinic nurse in charge (at the rural site and urban clinic 3) helped to identify men and women living with HIV, between the ages of 18 and 55, who either had a child since their HIV diagnosis or who desired a child in the future. Twenty-two men and twenty-one women agreed to participate in individual in-depth interviews. We used convenience sampling to recruit 20 different providers (at the rural site and urban clinic 2) to participate in two focus group discussions and in individual interviews. Providers were informed of the study at staff meetings and volunteers were asked to contact study staff if they were interested in participating. Twelve interviews were conducted first (five nurses, five doctors, two counselors), followed by two focus group discussions (13 participants).

Doctors were excluded from focus groups to ensure provider authority structures did not constrain nurses and counselors expressing their views (Table 1). The sample was selected using non-probability sampling. Participants were selected based on availability, consent to participate, experiences, and characteristics unique to the target groups.

Client interviews were conducted in *isiZulu* or English, and focused on childbearing desires, experiences, knowledge, and views of PMTCT and SC care. All clients were asked about their knowledge and views on three SC methods: timed unprotected intercourse (both partners living with HIV, or one partner's HIV status unknown), manual self-insemination (females living with HIV but not the male partner), and sperm washing with clinic assisted insemination (male living with HIV but not the female partner). Clients were also asked to consider their partners' views on these three SC methods and their willingness to engage in SC care.

Provider interviews and focus groups were conducted in English and focused on their experiences serving the childbearing needs of PLHIV, their knowledge and views on the three SC methods described above, and their views on the acceptability of these methods. All interviews and focus group discussions were transcribed and translated (as needed). Ethics approval was obtained through the research ethics committees of the University of the Witwatersrand, the University of KwaZulu-Natal, and the University of California, Los Angeles. The KwaZulu-Natal Department of Health and three clinic sites provided their written support of the study. Signed informed consent was obtained from all participants in the study prior to conducting interviews and focus groups.

Analysis

Interviews were coded using Atlas.ti (version 6.2, Berlin, Germany). The coding scheme was developed using a grounded approach [22]. Themes developed for the semi-structured interviews shaped the dominant themes that emerged in the coding process. New themes and subthemes emerged in this grounded approach to coding. The coding was conducted by the lead author and reviewed by a second qualitative researcher. Changes were made to the coding scheme based on consensus agreement between the two researchers.

RESULTS

All forty-three client participants were Black African aged 22 to 55 years. All reported a desire to have a child in the future, while nine reported currently trying to conceive (one was pregnant) (table 2).

Client knowledge of Safer Conception

Few clients had any knowledge of methods to avoid horizontal transmission of HIV when trying to conceive. Most had not spoken with providers about their childbearing desires and only cited condom use to ensure safer/protected sex.

> "[I]f you do not want to conceive a baby, you can use the protection, now if you want to make a baby, no I do not understand [know]" (female, 45, urban).

One man who had discussed his desire to have more children with providers still reported no knowledge of SC methods,

> "I have never heard advice of these things or anything from the medical people" (43, urban).

The lack of adequate counselling of men on reproductive matters was a consistent theme. It was stated that women primarily received reproductive counselling.

> "No, I have not received [information on SC] […] perhaps the person who has that information is the mother of the child who usually goes and talks about something of that sort." (male, 38, urban)

Clients who had heard of SC most often heard about it via the media.

> "I have heard about when they take the sperm and put it in you, in that way your partner is safe. […] He has to know your status. Then you will go to the doctors together and the doctor will help you and he will examine both of you. Then he will take out the man's sperm and would help with depositing it in you, in that way you will conceive. […] I don't have information [how it is deposited]. […] I usually hear when people talk on the radio about it and also on television." (female, 34, urban)

Horizontal transmission and sero-sorting

Twenty six clients reported having a sero-concordant partner. Sero-sorting (entails finding an HIV-positive partner) emerged as a common method to avoid the risk of horizontal transmission since their partner was already living with HIV.

> "[T]he only information I have is that since I am HIV-positive, I am supposed not to have sex with someone who is not HIV-positive. […] It is much better to live with this same person who has HIV rather than going out and take someone who is not HIV-positive." (male, 43, urban)

Provider knowledge of Safer Conception

We interviewed two counselors, five nurses, and five doctors aged 29 to 59 years, ten of whom were women. In addition, six counselors and seven nurses participated in focus groups (table 1).

Providers reported not routinely discussing childbearing intentions with clients living with HIV and expressed frustration with clients who came to them already pregnant.

> "….I think because we are getting people who just fall pregnant, mostly we find out when we are talking that they are already pregnant, […] it's rare where you will find that someone who is pregnant has ever discussed that issue with a counselor or a doctor." (female, counselor, urban)

> "We ask them about their sexual health, about contraception, about children, if their children have been tested. It does come up in the conversation but it's not for each patient that we would ask, 'Are you planning another child?'." (focus group, nurse, urban)

A few providers expressed some knowledge of SC methods for PLHIV, however most had limited or partial and/or inaccurate knowledge and at least half in each category of providers did not have any SC knowledge.

> "I am not sure what they really do but what I have heard is that they use a syringe to inject into the vagina and the partner won't have to have sexual contact with the infected partner because the sperm actually is not positive or negative. But I don't know how safe it is. I don't have good knowledge about it; I have never seen it done." (female, nurse, urban)

Among providers who had some knowledge of SC only one (a counselor) described advising clients on the use of timed intercourse. Most did not know about self-insemination or sperm washing. Once described, most viewed sperm washing as an unlikely option due to resource limitations and costs, and thus considered timed unprotected intercourse in conjunction with ART and viral suppression as the more viable option.

> "The main thing is that their viral load is suppressed and that they take their tablets; that they are careful about their sexual health. And if they are female and they wish to have babies, they should know the woman's cycle and know when it is best to have a baby." (male, doctor, rural)

Most providers reported having limited knowledge regarding women's reproductive cycles and felt uncertain about adequately counselling clients on timed intercourse. Counselors and nurses preferred to refer clients to doctors for SC counseling.

> "Mainly when the husband and wife come and say we want a child we would refer them to the doctor. I wish I could do more, and know how we can help them if they want to [have children]." (female, nurse, urban).

All providers expressed a need for additional training on SC methods and reproductive healthcare for PLHIV as well as standardized SC guidelines.

> "[C]lear guidelines would be helpful, documented, that everyone is agreed on. And especially for counselors, to make sure their training is adequate when they are doing the pre-ARV training. Because the majority of information that the patients receive comes from the counselors, so we need to make sure that their training is adequate." (male, doctor, rural)

Client knowledge and views on specific safer conception methods

All clients were asked their knowledge and views on each of the three methods described above.

Timed self-insemination—Clients had not heard about timed self-insemination (recommended for couple with HIV-positive female and HIV-negative male) and most had difficulty understanding the method, often confusing it with clinic-assisted in vitro fertilization. Once described, clients were generally receptive to using this method. One woman thought her partner would agree to use this method because,

> "[t]here would be no misunderstanding that they were using someone else's sperm. He would actually do it himself and see his own sperm and know this is my child." (34, rural)

Similarly a male client expressed support for self-insemination:

> "I think this is the right method because she does not get infected, neither does the child. […]So in a desperate situation of really wanting a child, I would use it" (35, rural).

Another client, who did not know her partner's status and had not disclosed her HIV-positive status, felt self-insemination could be helpful in avoiding blame for transmitting HIV to her partner.

> "If I use this strategy my partner will not blame me that I infected him, he will not complain, he will know that when we have sex we will use condoms, for a child we will use this strategy." (34, urban)

Clients were optimistic about timed self-insemination and saw this method as useful in attaining their childbearing goals.

Sperm washing and clinic assisted insemination—Concerns about biological parentage were expressed by both men and women when sperm washing with clinic assisted insemination was discussed (for couples where an HIV-positive male has an HIV-negative female partner). Men were concerned about ensuring that their own sperm was being used.

> "No, to me it is not right because […] I would know that child is not mine." (male, 38, urban)

Once assured that his own sperm would be used he said that was "the very right one. […] It is alright if they are going to take mine and insert it in her."

Female clients noted that this was a good method for women who were not living with HIV but had a male partner living with HIV. Some said that if a man really wanted a child, he would agree to this method.

> "He has to agree to it because it is preventing him infecting [his partner]. If he doesn't agree then he will infect [her]." (female, 32, rural)

Both male and female clients expressed concerns about the costs and complexity of the process.

Timed unprotected intercourse—When discussing the use of timed unprotected intercourse, for couples where partner status is unknown or where one or both partners are HIV-infected, clients expressed less confidence as they felt that unprotected intercourse during ovulation still posed a risk of infection.

> "I cannot trust that [method]." (male, 38, rural)

> "I think it is very risky. [….] It's better if you know that you are protected and not have unprotected sex. I am scared." (female, 31, urban)

A few clients stated they would consider using this method despite potential risks.

> "Having this in mind now, I am really starting to see that there are other ways [to conceive]. So it can be risky […] but it cannot be risky to a person that is serious to have a child. So, the method is very helpful…" (male, 23, urban)

Many clients found this method appealing since it was more 'natural' and did not require clinic visits.

> "This is a good method. We both have sex the natural way." (male, 28, rural)

Some females told us their partners would support this method because,

> "[H]e would be very happy that he won't use the condom. […] He would have day off from using condoms." (female, 28, rural)

Most clients indicated they would need comprehensive counselling on timed unprotected intercourse as few had knowledge of ovulation and would need assistance determining the ovulation period. The only client with any knowledge of this had received some counselling from providers.

> "They told me that if you – when you get [your] period -- because we are on HIV [treatment], they say we must use a condom, only when I get my period, … so I count from that day when I finish my period, so on the seventh [day], you must have sex only on that day… So then – if we have it on [that day] – then we must carry on with a condom. […] So in future we are using condoms every day." (female, 36, urban)

Clients expressed a strong desire for support from providers to ensure that they safely conceive and that the risk to the child was addressed. Reducing risk to their partner was something clients did not expect and this was information they were eager to obtain.

> "Sex is just for making love; so if you do want to have children, I would do any of these [SC] options because I want to have children." (male, 45, rural)

Provider concerns over discussing safer conception methods with clients

Providers expressed discomfort advising clients about SC methods.

> "I think the other fear about us as nurses, we think that if we talk about preconception, it's like we're encouraging them to have more and more children." (focus group, nurse, urban)

While another provider noted that providing "relevant information" to couples about childbearing was important she cautioned that,

> "… at the same time making sure that we are not encouraging pregnancy to those who are HIV-positive because even though the treatment does work, sometimes it does fail to do what it is supposed to do. Children need to be raised up, so we might end up having lots of orphans. On the other hand, I would say let us encourage it and give more information on it…" (female, counselor, urban).

A few cautioned that not all providers are comfortable discussing sexual matters with clients.

> "[N]ot everyone is comfortable talking about sexuality; one would assume that everyone in an ARV [antiretroviral] clinic is happy to talk about sex but maybe not everyone is." (male, doctor, rural)

Regarding specific SC methods, providers noted that they were not always comfortable discussing methods, in part, because they lacked adequate information.

> "[W]ell to be honest, I'm not even comfortable to talk about [using] a syringe [for insemination]. Because it is something I'm really, really not too sure [about]." (focus group, nurse, urban)

Providers also discussed issues related to social acceptability. In the rural clinic providers believed clients may be concerned about ensuring paternity.

> "We are located in a rural area and our people here are illiterate so it depends on their level of understanding. Let me make an example, if a 40 year old wants an artificial insemination maybe he is married, firstly, it depends on our cultural beliefs plus they would not know the surname of the sperm [patriarchal affiliation of child]." (focus group, counselor, rural)

Some providers thought timed intercourse would be more acceptable:

> "Obviously there are other options, like donations of sperm, and I think for most people they don't want that option. They just want to know which the safest period is, my viral load is suppressed, as long as the partner knows the risk, it's basically zilch, but there's the risk. So they can be helped." (male, doctor, rural)

When discussing implementation of SC counselling in clinics, providers expressed concerns about ensuring men's compliance with recommended procedures. They feared cessation of

condom use during timed intercourse would undermine efforts to ensure condom usage as an HIV prevention strategy.

> "He obviously won't want to use condoms; he's going to ask "why do I need to use condoms?"" (focus group, nurse, urban)

DISCUSSION

Routine provision of preconception services and safer conception counseling to PLHIV and their partners is required. Our research indicates that PLHIV and providers in our study had very limited knowledge of SC methods. Few clients had knowledge of SC methods to prevent horizontal HIV transmission, relying on preventing transmission through the use of condoms, which also prevents conception. Research has previously highlighted the emphasis placed on condom use by providers and in HIV education campaigns which preclude open discussion of safer conception [23,24]. This messaging is neither helpful nor ethical to clients living with HIV who desire and intend to become pregnant. When it came to fulfilling their desires to have children clients were not aware of ways to do so safely. Those who knew anything about SC heard about it via media, but knew very little about how this would actually work for them. Only one client reported receiving counselling on timed unprotected intercourse.

Reproductive healthcare for men has historically been poor in many settings [25,26]; male participants lacked access to reproductive knowledge and were usually dependent on female partners for information. Ensuring men's access to reproductive healthcare is vitally important, not only for men's health, but also to ensure the health of their sexual partners. Reproductive healthcare should be seen as a right for both men and women [27,28].

When discussing the SC methods available, providers and clients noted that men may be concerned about biological parentage and would have anxieties about whether their own semen specimen would be used to inseminate their partner. A number of clients expressed concerns about the risk of HIV transmission associated with timed unprotected intercourse. Those who understood that limiting unprotected intercourse to the period of ovulation would minimize risks were willing to use this method describing it as more "natural". Clients were supportive of self-insemination in cases where the female partner was living with HIV but the male partner was not. Female clients felt that they or their male partner could be assured that the semen sample was their own. Men living with HIV were not averse to using clinic based services for sperm washing should such services be available. Clients were motivated to ensure not only that they had biological children but that they avoided transmitting the virus to the child. They also wanted to ensure that they and/or their partner remained healthy in order to raise their child.

Although client interviews reflected a strong need for SC counseling, provider interviews revealed their hesitancy toward providing such services given their limited knowledge, a lack of Department of Health guidelines and training, concerns about client treatment adherence, and providers' personal beliefs [23,29,30]. Providers expressed concerns about preconception counseling and encouraging PLHIV to have children while a few noted that some providers are uncomfortable discussing sexual matters with clients. They were also

concerned about clients' ability to adequately implement the SC methods and about male compliance with their recommendations. Providers desired training in reproductive health for PLHIV as well as SC methods. Counselors and nurses were primarily referring clients who expressed childbearing desires to doctors, while doctors stated that counselors are at the frontline in addressing such issues with clients and also needed training [23,24].

CONCLUSIONS

Clients have a strong desire to receive safer conception counseling from providers and though providers express some concerns about encouraging clients to have children, all had a strong desire for clear guidelines. Providers had limited knowledge of reproductive health and safer conception methods, and require training to effectively deliver these services. These findings are comparable to those of Finocchario-Kessler et al. (2014) in Uganda [7]. Providers also need values clarification training to help them separate their personal beliefs and clients' rights to have children [30]. South Africa's clinical guidelines for delivery of safer conception services need to be reviewed and adapted for use within the National Department of Health. Van Zyl and Visser (2015) suggest such care be integrated at the primary care level [6]. Affordability issues, particularly with regard to sperm washing, need to be addressed to ensure men living with HIV who are in discordant relationships do not transmit the virus to their partners. Providers need to routinely initiate discussions with HIV-affected couples about their childbearing intentions. Since clients report seeking sero-concordant partners it is important that safer conception services include sero-concordant and not only sero-discordant couples to ensure optimal outcomes and engagement in PMTCT. Sero-concordant partners need information on safer conception to minimize the risks of superinfection or transmission of drug resistant strains of HIV, and to ensure engagement in PMTCT services to reduce vertical transmission to the child. Nurses and counselors are often the first line of contact and should be placed at the forefront of training in safer conception to provide clients with appropriate information and assistance. Clients who are motivated to have children are willing to use safer conception methods if they can be assured the child will be their biological progeny.

Acknowledgments

This research was funded by an NIMH Fogarty International Center and the University of California Global Health Institute's Women's Health and Empowerment Center of Expertise (Award Number R24TW008807); UCLA AIDS Institute, and the UCLA Center for AIDS Research (AI28697). The views expressed here are solely those of the authors.

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

1. Mantell JE, Smit JA, Stein ZA. The right to choose parenthood among HIV-infected women and men. Journal Public Health Policy. 2009; 30:367–378.
2. London L, Orner PJ, Myer L. "Even if you're positive, you still have rights because you are a person": Human rights and the reproductive choice of HIV-positive persons. Developing World Bioethics. 2008; 8(1):11–22. [PubMed: 18302539]

3. Maier M, Andia I, Emenyonu N, Guzman D, Kaida A, Pepper L, et al. Antiretroviral therapy is associated with increased fertility desire, but not pregnancy or live birth, among HIV+ women in an early HIV treatment program in rural Uganda. AIDS Behavior. 2009; 13(Suppl 1):28–37. [PubMed: 18389364]

4. Myer L, Akugizibwe P. Impact of HIV treatment scale-up on women's reproductive health care and reproductive rights in Southern Africa. JAIDS. 2009; 52(1):S52–53. [PubMed: 19858940]

5. Nattabi BJ, Li SC, Thompson C, Orach G, Earnest J. A systematic review of factors influencing fertility desires and intentions among people living with HIV/AIDS: Implications for policy and service delivery. AIDS Behavior. 2009; 13:949–968. [PubMed: 19330443]

6. Van Zyl C, Visser MJ. Reproductive Desires of Men and Women Living with HIV: Implications for family planning counseling. Reproductive BioMedicine Online. 2015; 31:434–442. [PubMed: 26208447]

7. Finocchario-Kessler S, Wanyenze R, Mindry D, Beyeza-Kashesya J, Goggin K, Nabiryo C, Wagner G. "I May Not Say We Really Have a Method, It Is Gambling Work": Knowledge and Acceptability of Safer Conception Methods Among Providers and HIV Clients in Uganda. HealthCare for Women International. 2014; 35(7–9):896–917. DOI: 10.1080/07399332.2014.924520

8. Myer L, Morroni C, Rebe K. Prevalence and determinants of fertility intentions of HIV-infected women and men receiving antiretroviral therapy in South Africa. AIDS Patient Care and STDs. 2007; 21(4):278–285. [PubMed: 17461723]

9. Kaida A, Laher F, Strathdee SA, Janssen PA, Money D, Hogg RS, et al. Childbearing intentions of HIV-positive women of reproductive age in Soweto, South Africa: the influence of expanding access to HAART in an HIV hyperendemic setting. American Journal Public Health. 2010; 101(2):350–8.

10. Cooper D, Moodley J, Zweigenthal V, Bekker L, Shah I, Myer L. Fertility intentions and reproductive health care needs of people living with HIV in Cape Town, South Africa: Implications for integrating reproductive health and HIV care services. AIDS Behavior. 2009; 13:S38–S46.

11. Schwartz SR, Mehta SH, Taha TE, Rees HV, Venter F, Black V. High Pregnancy Intentions and Missed Opportunities for Patient–Provider Communication about Fertility in a South African Cohort of HIV-Positive Women on Antiretroviral Therapy. AIDS Behavior. 2012; 16(1):69–78. [PubMed: 21656145]

12. Department of Health. The 2012 National Antenatal Sentinel HIV and Herpes Simplex type-2 prevalence Survey, South Africa. National Department of Health; South Africa: 2013.

13. Beksinska M, Smit JA, Mantell J. Progress and challenges to male and female condom use in South Africa. Sexual Health. 2012; 9:51–58. [PubMed: 22348633]

14. Wilcher R, Cates W. Reproductive choices for women with HIV. Bulletin WHO. 2009; 87:833–839.

15. Smit J, Church K, Milford C, Harrison AD, Beksinska ME. Key informant perspectives on policy- and service-level challenges and opportunities for delivering integrated sexual and reproductive health and HIV care in South Africa. BMC Health Service Research. 2012; 12:48.

16. Barron P, Pillay Y, Doherty T, Sherman G, Jackson D, Bhardwaj SF, et al. Eliminating mother to child transmission in South Africa. Bulletin WHO. 2013; 91(1):70–74.

17. Goga, A.; Dinh, TH.; Jackson, D.; Dlamini, N.; Mosala, T.; Lombard, T., et al. Impact of the national prevention of mother-to-child transmission of HIV (PMTCT) program on perinatal mother-to-child transmission of HIV (MTCT) measured at six weeks postpartum, South Africa (SA). XIX International AIDS Conference; 22–27 July; Washington, United States. 2012. Available from: http://pag.aids2012.org/abstracts.aspx?aid=8933

18. Bekker LG, Black V, Myer L, Rees H, Cooper D, Mall S, et al. Guideline on safer conception in fertile HIV-infected individuals and couples. Southern African Journal HIV Medicine. 2011; 12(2):31–44.

19. Mmeje O, Cohen CR, Cohan D. Evaluating Safer Conception Options for HIV-Serodiscordant Couples (HIV-Infected Female/HIV-Uninfected Male): A Closer Look at Vaginal Insemination. Infectious Diseases in Obstetrics and Gynecology. 2012; doi: 10.1155/2012/587651

20. Bujan L, Hollander L, Coudert M, Gilling-Smith C, Vucetich A, Guibert J, et al. Safety and efficacy of sperm washing in HIV-1-serodiscordant couples where the male is infected: results

from the European CREAThE network. AIDS. 2007; 21(14):1909–1914. DOI: 10.1097/QAD.0b013e3282703879 [PubMed: 17721098]

21. Fourie JM, Loskutoff N, Huyser C. Semen decontamination for the elimination of seminal HIV-1. Reproductive Biomedicine Online. 2015; 30:296–302. [PubMed: 25596908]
22. Miles, MB.; Huberman, AM. Qualitative data analysis: An expanded sourcebook. 2. Thousand Oaks, CA: Sage Publications; 1994.
23. Crankshaw TL, Mindry D, Munthree C, Letsoalo T, Maharaj P. Challenges with couples, serodiscordance and HIV disclosure: healthcare provider perspectives on delivering safer conception services for HIV-affected couples, South Africa. JIAS. 2014; 17:18832.doi: 10.7448/IAS.17.1.18832
24. Matthews LT, Moore L, Milford C, Greener R, Mosery FN, Rifkin R, Psaros C, Safren SA, Harrison A, Wilson IB, Bangsberg DR, Smit JA. "If I don't use a condom … I would be stressed in my heart that I've done something wrong": Routine prevention messages preclude safer conception counseling for HIV-infected men and women in South Africa. AIDS Behavior. 2015; 19(9):1666–75. DOI: 10.1007/s10461-015-1026-x [PubMed: 25711300]
25. Doyal L. Sex, gender and health: the need for a new approach. BMJ. 2001; 323(7320):1061–1063. [PubMed: 11691769]
26. Khan, ME.; Khan, I.; Mukerjeen, N. [Accessed: 6 January 2014] Involving men in safe motherhood. POPLINE. 1998. Available from: http://www.popline.org/node/282553
27. Wegner MN, Landry E, Wilkinson D, Tzanis J. Men as Partners in Reproductive Health: From Issues to Action. International Family Planning Perspectives. 1998; 24(1):38–42.
28. Peacock D, Stemple L, Sawires S, Coates TJ. Men, HIV/AIDS and human rights. JAIDS. 2009; 51(3):S119–S125. [PubMed: 19553779]
29. Matthews LT, Milford C, Kaida A, Ehrlich MJ, Ng C, Greener R, et al. Lost opportunities to reduce periconception HIV transmission: Safer conception counseling by South African providers addresses perinatal but not sexual HIV transmission. JAIDS. 2014; 67(4):S210–7. [PubMed: 25436820]
30. Mindry D, Crankshaw T, Maharaj P, Munthree C, Letsoalo T, Milford C, Greener R, Rambally L, Carpenter S, Smit JA. *"We have to try and have this child before it is too late"*: Missed opportunities in client-provider communication on reproductive intentions of PLHIV. AIDS Care. 2015; 27(1):25–30. DOI: 10.1080/09540121.2014.951311 [PubMed: 25202986]

Highlights

- Clients and providers have little to limited knowledge of safer conception methods for PLHIV to prevent horizontal HIV transmission to partners during conception
- Clients living with HIV desire safer conception counseling
- Healthcare providers require approved guidelines and training to deliver safer conception services to PLHIV
- Clients are concerned about the risks of HIV transmission associated with timed unprotected intercourse
- Providers need values clarification training to separate their beliefs from the rights of PLHIV to have children safely

Table 1

Participants at three study sites

	Site 1: Rural clinic	Site 2: Urban clinic 1	Site 3: Urban clinic 2	Totals
HIV+ client interviews	11 females	-	10 females	21 females
	10 males	-	12 males	22 males
HCP Focus Groups	3 nurses	4 nurses	-	7 nurses
	4 counselors	2 counselors	-	6 counselors
HCP Interviews	2 nurses	3 nurses	-	5 nurses
	3 doctors	2 doctors	-	5 doctors
	1 counselor	1 counselor	-	2 counselors

Table 2

Client demographics

	Urban		Rural		Total
	Male	**Female**	**Male**	**Female**	
ART (Yes/No)	9/3	10/0	10/0	10/1	39/4
Relationship status (Discordant/Concordant/Don't Know)	1/9/0	2/5/2	2/5/2	2/7/1	7/26/5
Status disclosed (Yes/No)	8/0 **	7/2	7/2	9/1	31/5
No. children (0/1–2/>3)	3/5/4	1/7/2	3/5/2	3/8/1	10/25/9
Child post HIV (Yes/No)	2/10	2/8	1/8	6/5	11/31
Desire child (Yes/No)	12/0	10/0	10/0	10/1	42/1
Currently trying (Yes/No)	1/7 **	3/7	2/8	3 */8	9/30

** Missing data or not in a relationship, so some not relevant

* One woman had just been notified that she was pregnant.