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The injection or the injection? Restricted contraceptive choices among women living with HIV

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Abstract: *Historically, women living with HIV (WLWH) have been vulnerable to biased advice from healthcare workers regarding contraception and childbearing. However, antiretroviral therapy (ART) has made motherhood safer, prompting a re-examination of whether contraceptive services enable the realisation of WLWH's reproductive intentions. We use longitudinal quantitative data on contraceptive choice and use, and childbearing intentions collected in (up to) six interviews between entry into antenatal care (ANC) and 18 months post-partum from a cohort of 471 ART-initiated WLWH in Cape Town, South Africa. Thirty-nine of these women were randomly selected for in-depth interview where they described experiences of contraception services and use. We find high prevalence of injectable contraceptive (IC) use after birth (74%). With increasing post-partum duration, greater proportions of women discontinue this method (at 18 months 21% were not using contraception), while desires for another child remain stable. We find little consistency between method choice and use: many women who elected to use the intrauterine device, sterilisation or oral contraceptives at first ANC visit are using IC after birth. Women commonly report receiving an IC shortly after birth, including those who had previously chosen to use another method or no method. Among WLWH, injectables dominated the contraceptive method mix. Despite a human rights-grounded policy and attempts to introduce new methods, contraceptive services in South Africa remain largely unchanged over time. Women are frequently unable to make autonomous contraceptive choices. Despite low desires for future pregnancy, we observed high rates of contraceptive discontinuation, resulting in heightened risk of unintended pregnancy.* DOI: 10.1080/26410397.2019.1628593

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Introduction

Increasing numbers of women seek to continue childbearing following an HIV diagnosis, and improved access to antiretroviral therapy (ART) has had important implications for women's experiences and desires to have (more) children.[1–4] Understanding childbearing intentions and contraceptive use among women living with HIV (WLWH) is critical in South Africa. The country has a highly successful prevention of mother-to-child transmission (PMTCT) programme, which is estimated to have >95% coverage among pregnant WLWH.[5] In recent years, there has also been widespread adoption of the World Health Organization's (WHO) Option B+ recommendations,[6] which has resulted in the rollout of life-long ART to all pregnant WLWH, regardless of their CD4 cell count.

Across Sub-Saharan Africa the rates of unintended pregnancy are high,[7] and rates of unintended pregnancy are higher among WLWH than in the general population.[8,9] The provision of

family planning services within the framework of PMTCT is thought to be especially critical in South Africa: recent research has found that the percentage of pregnancies reported as unintended among women enrolled into PMTCT services and among ART-initiated women was 50%[10] or higher.[11] Other research has highlighted that gaps continue to exist in the communication between ART-initiated patients and healthcare providers about their reproductive intentions.[12]

Underlying this picture is the ongoing, critical need to uphold women's reproductive autonomy and support them to realise their reproductive intentions through the provision of information about safe conception and contraception and access to services. Earlier research from South Africa found that WLWH who initiated ART are increasingly likely to wish to continue childbearing,[1,2] however, they were also vulnerable to biased advice and coercion regarding contraception and childbearing. In two Cape Town-based studies, men and women living with HIV reported healthcare workers discouraging them from having children or advising an abortion if the couple is already pregnant.[1,13] At the time this study was done, it was found that WLWH were often reluctant to have discussions with healthcare workers about their reproductive plans and desires.[1] This research suggested that, at that time, there was a mismatch between the childbearing intentions and contraceptive use of WLWH.

Currently, we do not have an up-to-date understanding of the contraceptive experiences of WLWH in South Africa. While the research presented above suggests that healthcare workers often do not support WLWH's reproductive intentions, we can reasonably expect the situation to have improved since the mid-2000s. Childbearing among WLWH is becoming increasingly safe: availability of ART is reducing both new paediatric infections[14,15] and HIV-related maternal deaths.[16] In 2012, the South African Department of Health released the updated and revised National Contraception and Fertility Planning Guidelines, which are also likely to have brought about changes in service delivery. The policy emphasises the need to expand the variety of contraceptive methods available, and specifically to reduce reliance on progesterone-only injectable contraceptives that were aggressively promoted during the Apartheid era.[17–19] With regard to people living with HIV, the policy outlines the importance of enabling individuals and couples who wish to continue childbearing to safely realise their reproductive intentions. It also stipulates the importance of meeting the contraceptive needs of WLWH in order to prevent unintended pregnancy.[18]

Thus there is a need for researchers to examine the reproductive intentions of WLWH in the context of widespread ART availability and to analyse whether contraceptive services are enabling them to realise their reproductive intentions.

To address this gap, we ask "to what extent is contraceptive use among a group of WLWH consistent with their reproductive intentions?" To answer this question, we set the following objectives: first, to examine the reproductive intentions among a cohort of 471 ART-initiated WLWH during the pre- and post-partum period. Second, to examine trends in contraceptive use and method choice over the same timeframe in this cohort. Third, to explore their experience of contraceptive services in the post-partum period.

Methods

We used the concept of "quality of care"[20] as an underlying basis for the study in order to examine the extent to which contraceptive services are meeting the needs of WLWH. We used three out of the six dimensions outlined by Jain[21] in their quality of care framework for family planning services: choice of contraceptive methods, information given to the user and provider–client relations. (The remaining three elements in this framework are the technical competence of providers, patient follow-up mechanisms and an appropriate constellation of family planning services). The framework outlines how contraceptive users should have access to long-term and short-term contraceptive methods, hormonal and non-hormonal methods and both female- and male-controlled methods. With regard to information and counselling, users should be given information about contraindications, risks, benefits and side effects of the various methods. The dimension of provider–client relations describes how users should feel trusting and positive about their interactions with healthcare staff.[21] We examined the quality of care in terms of its impact upon women's patterns of contraceptive use, as well as the extent to which women are able to realise their right to reproductive autonomy.[22]

Design and setting

This was a mixed-methods study that used quantitative data from the Maternal-Child Health

Antiretroviral Therapy (MCH-ART) study (a randomised trial evaluating strategies for delivering HIV care and treatment services to pregnant and post-partum WLWH) and qualitative data from in-depth interviews conducted with a subset of women enrolled in the MCH-ART cohort. The MCH-ART study took place at the Midwife Obstetric Unit (MOU) at the Gugulethu Community Health Centre (CHC) in Cape Town, South Africa. The CHC serves a historically disadvantaged community with a high burden of HIV. Among women attending the CHC's antenatal care (ANC) clinic in 2015, the HIV prevalence was 33%.[23] The CHC has offered PMTCT services since 2001, and the vertical transmission rate is estimated to be 2–4%. The MCH-ART study and methods have been described in detail previously.[24]

Quantitative data

Women were enrolled into the MCH-ART study if they were seeking ANC at the study clinic, were living with HIV and eligible to initiate ART. In order for them to be eligible for ongoing participation in the research post-partum, they needed to have initiated ART and be breastfeeding (the MCH-ART study also examined the effect of HIV care on breastfeeding practices). The study followed 471 women from their first ANC visit (enrolment took place between 20th March 2013 up to 3rd April 2014) until 18 months post-partum.

In this research, we made use of data on contraceptive use and childbearing intentions collected during (up to) seven study visits, the first taking place at first ANC visit and the remaining six visits taking place over an 18-month post-partum period. These study visits took place separately from routine antenatal, postnatal or ART services at a large, primary-level antenatal and obstetric facility. Women participated in face-to-face interviews, where study staff administered standardised questionnaires. Data on demographic characteristics and intended future contraceptive use were collected at first ANC visit. Participants were permitted multiple responses to the question on intended future contraceptive use, which was designed to capture intentions to use dual protection (i.e. a hormonal method in combination with a barrier method). At each following visit in the post-partum period, women reported on current contraceptive use and childbearing intentions.

From the contraceptive use data, we generated a variable that identified a woman's current use of contraception that is classified in the following way: (i) none, (ii) injection (both the two-month and three-month options), (iii) IUD (either the hormonal or copper method), (iv) female sterilisation, (v) implant and (vi) oral contraceptive. Reporting of condom use as a contraceptive method was inconsistent, so we did not include these data. Childbearing intention was recorded using a 4-point scale measuring future desire, categorised as (i) unsure, (ii) definitely do not want to become pregnant in the future, (iii) may want to become pregnant in the future and (iv) definitely do want to become pregnant in the next 12 months.

In order to understand women's reproductive intentions and the relationship between reproductive intentions and patterns of contraceptive use, we examined the distribution of childbearing desires and corresponding patterns of contraceptive use at the six study visits. We then compared the percentage distribution of women's intended method of contraception at first ANC visit with the percentage distribution of methods used at one week post-partum. This gave insight into the extent to which services are meeting women's prenatal contraceptive intentions.

Qualitative data

We conducted 39 in-depth interviews with a subset of women who we randomly selected from the list of participants enrolled in the MCH-ART study (the audio recording of a 40th interview was faulty and could not be transcribed). These interviews took place between 12 and 29 months post-partum.

During the interviews women were asked to describe their feelings about planning pregnancies, lifetime use of contraception and experiences getting contraception in clinics. We also asked questions about their pregnancy and childbearing history, their future childbearing intentions, and about HIV and its relationship with motherhood, although this data is not included in this research paper. All of the interviews were conducted in isiXhosa, away from the clinic to ensure that the respondents felt free to report any negative experiences that they may have had with healthcare workers.

The interviews were recorded and then simultaneously translated and transcribed. We conducted a thematic analysis of the interview transcripts in NVivo. First, two members of the research team separately coded 10 transcripts. Both researchers worked independently to identify and highlight key concepts and ideas to build initial codes. Second, they both collaborated in

revision, editing, renaming and regrouping of these early codes to form the final coding structure used for the main analysis. This final coding structure was used to code the remaining 29 interview transcripts. In addition to the creation of codes, we wrote analytic memos which recorded our ideas about patterns, categories, concepts and themes in the data.[25] These further informed the analysis of the transcripts.

Ethical clearance for this study was given by the University of Cape Town Human Research Ethics Committee and the Columbia University Institutional Review Board (IRB). All participants provided written informed consent prior to participation, and women participating in the qualitative component signed an additional consent for the in-depth interview.

Findings

A total of 471 women were enrolled in the parent study. The mean number of study visits per respondent was 5.7 (range 1–7) and the mean duration of follow-up was 536.7 days (range 23–856 days). Table 1 summarises the background demographic characteristics of the participants. The average participant was 28.6 years old, had a parity of 1.4 children (18% of the participants were nulliparous (not shown in table)) and had reached Grade 10.7 Secondary School level (Matriculation, in Grade 12, is the end of general education in South Africa). The majority of respondents were in a relationship at the time of first ANC visit, with 41% of women living with or married to their partner. The majority of participants reported that their current pregnancy was unintended (71.8%), with the majority of women (69%) reporting that they were not using a method in the month they became pregnant (not shown).

Table 1. Socio-demographic characteristics of participants at study enrolment visit (n = 471)

	Mean	Range
Age (years)	28.55	18–45
Parity	1.4	0–6
Highest level of education (Grade)	10.7	1-12+
	Percentage (number)	
Marital status		
Married or cohabiting	41 (193)	
Not married or cohabiting	59 (278)	
Planned pregnancy		
Intended	28.2 (133)	
Unintended	71.8 (338)	

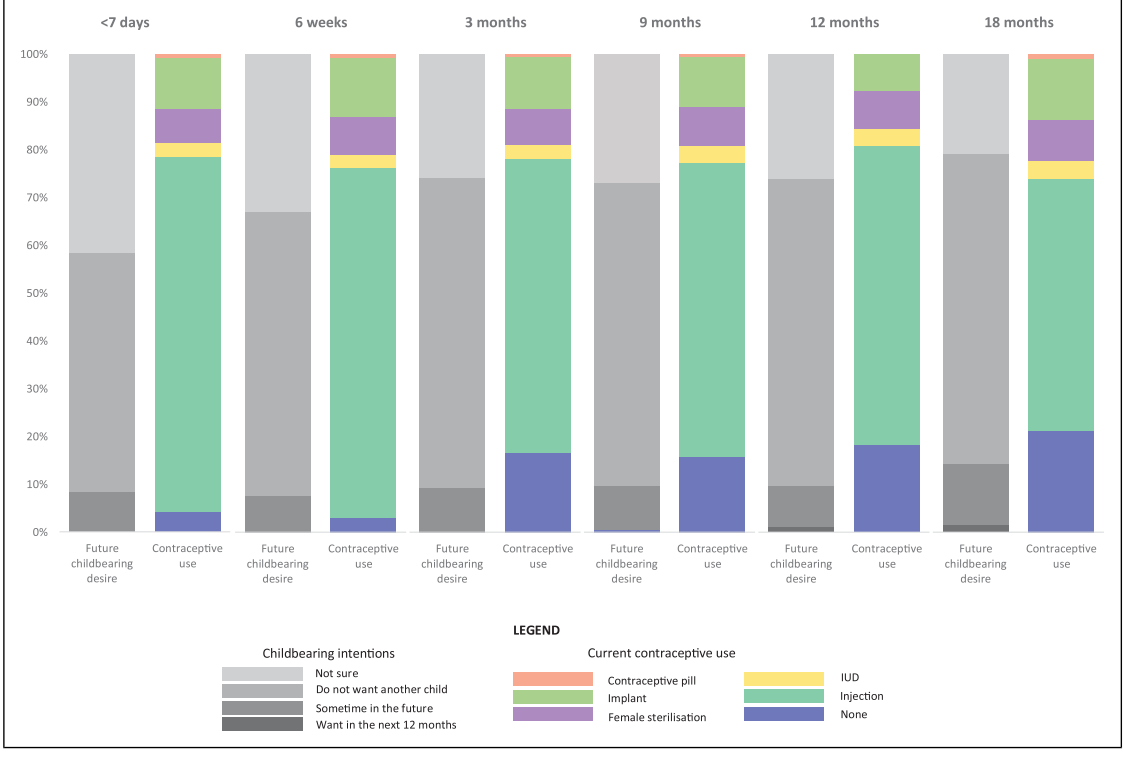
Childbearing intentions and contraceptive method use

Figure 1 shows the childbearing intentions and contraceptive method reported across the six post-partum study visits, with percentages calculated from between 471 and 241 participants. Retention of participants in the study was fairly consistent over the first nine months of the post-partum study period. At the nine-month study period, 81.3% of the original 471 women were interviewed. Thereafter, study follow-up declined: at 12 and 18 months post-partum, 331 and 241 of the 471 women enrolled at baseline were interviewed.

Overall, we found that childbearing intentions remain stable over the first year since birth, while the proportion of women not using a contraceptive method increases. Across visits, women reported little change in childbearing desires. In the first 18 months following birth, the majority of women (49.9–65.0%) did not want another child. A sizeable proportion was unsure about whether they would like another child in the future. This figure is highest within the week following birth (41.6%) and then falls to between 20.7% and 33.0% of women. Desire to become pregnant in the future was low, ranging between 8.5% and 12.6% across visits, while desire to become pregnant in the next 12 months was reported in <2% of women over time.

While childbearing desires remained relatively stable over time, we found changes in women's use of contraception, specifically injectable contraceptives. Across visits, the majority of women reported using injectable forms of contraception. This proportion was highest during the first two months following birth (73.2–74.3%). From three months after birth, it fell to between 61.5% and 62.4%. By 18 months, 52.7% of women were using injectables. This decrease was followed by a corresponding increase in the proportion of

Figure 1. Future childbearing desires and contraceptive method use across post-partum study visits (n = 471–241)



women who were not using any method of contraception, which rose from 4.1% at six weeks to 18.3% at three months. By 18 months post-partum, 21.2% of women reported not using any contraception method. This increase in women not using a method was a result of women discontinuing their use of injectables.

There was little change in women's use of other methods of contraception over time. Across visits, between 7.6% and 12.9% of women were using an implant, 7.2% and 8.5% had been sterilised, 2.7% and 3.6% were using an IUD, while <2% were using oral methods of contraception.

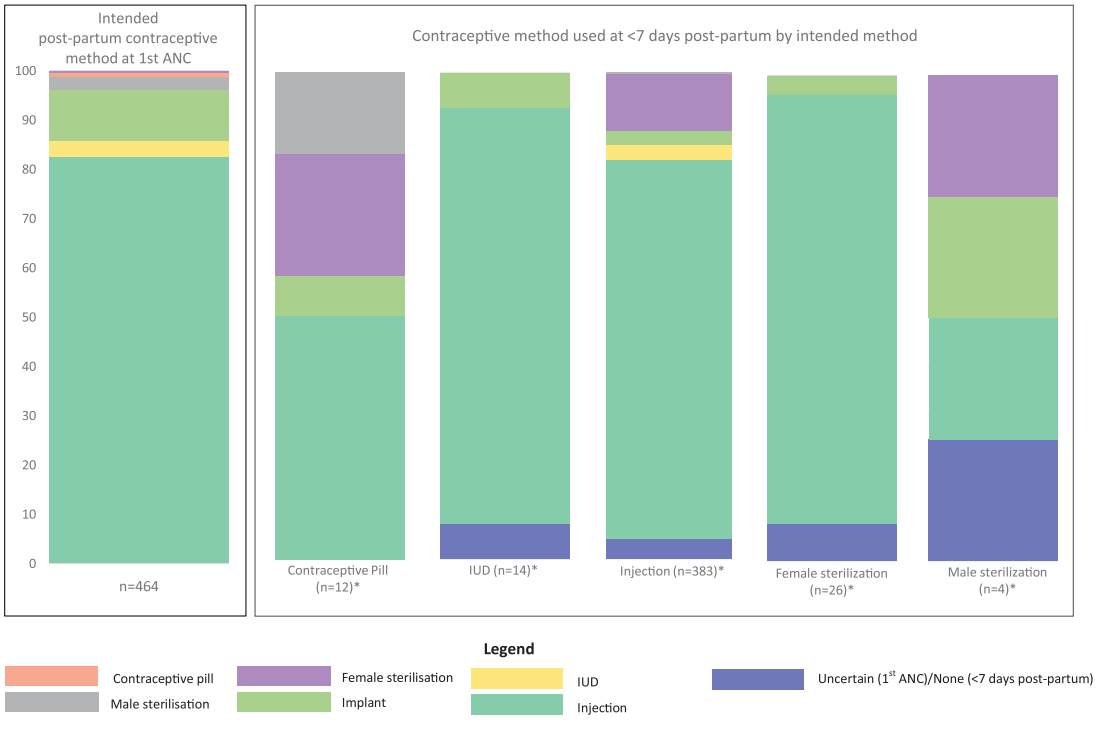
Pre-birth intended contraception use and contraception use after birth

Figure 2 compares women's intended method of contraception with the contraception method they are using in the week following birth. The first bar graph on the left shows the proportions of responses by intended contraception method. (Women were permitted multiple responses to this question, which was asked of them at first ANC visit and was designed to capture intentions to use dual protection, i.e. a hormonal method in combination with a barrier method.) The following five graphs show women's actual contraception use at one week after birth, by their intended post-partum contraception method.

Almost all respondents had a history of contraceptive use, with only five women reporting at first ANC visit that they had never used a contraceptive method before (a further two did not respond to this question). At first ANC visit, injectables were the most common form of intended contraception: 82.5%. This was followed by female sterilisation, which represents 10.3% of the responses. The IUD, oral contraceptives and male sterilisation all counted for less than 3% of responses. A small minority of women were uncertain about their intended post-partum contraception method (<0.5%).

Figure 2 demonstrates that there was little consistency between women's intended use of

Figure 2. Intended post-partum contraception method and contraception method used at <7 days post-partum



*Note: numbers in brackets denote the number of participants who intended to use this method at first ANC.

contraception and the method they were using after birth. The majority of women who were intending to use the IUD or female sterilisation ended up using injectable methods of contraception. Out of the 14 women who were intending to use the IUD, 12 were using the injection after birth, while 23 out of 26 women who were intending to use female sterilisation were using the injection after birth. Similarly, 6 of the 12 women who were intending to use oral contraceptives also ended up using injectables after birth. Further analysis (not shown) revealed that of the 79 (17.0%) women who did not mention the injection as an intended contraception method, 38 (49.4%) of them were using injectables in the seven days following delivery. Among these women, the majority had chosen either female sterilisation or IUD at first ANC visit.

We also found that, although prior to delivery no women desired to use the implant, approximately 25% of women who were intending to use injectables, oral contraceptives or male sterilisation were using an implant following delivery.

Familiarity choices

The results of the in-depth interviews enabled us to explore the factors behind the high prevalence of injectable use and discontinuation in this population. We found that women often receive limited counselling on the choice of contraception methods available. As a result, they often choose the method that is most familiar to them: most commonly Depo-Provera (commonly referred to as Depo) and Petogen (the generic equivalent of Depo-Provera).

Respondent: *After I gave birth […] I went back to contraception again.*
Interviewer: *What did you use?*

Respondent: *I used Depo*.
Interviewer: *You used Depo. Did you choose Depo yourself or how did they do it?*
Respondent: *They asked us which one you preferred but I wanted to continue with the one I know. I didn't want to start something new. I never used a pill*. [Respondent 22]

The choices and experiences of female family members and friends had a strong influence on women's chosen method of contraception. Most often, this meant that women chose to use an injectable form of contraception:

"My friends explained everything to me even before I went there. They told me that Nur-Isterate [two month injectable contraceptive] *was for people who didn't have children. When I went to the clinic the nurse put them in front of me and I chose Nuri as my friends had advised. The nurse told me that they had pills she showed me the pills with colours and injections. She showed me Nuri* [Nur-Isterate] *and Depo. […] The nurse only explained Nuri to me but she didn't explain other contraceptive methods."* [Respondent 37]

If a woman did not receive informative counselling when she first started using contraception, she was likely to continue using the same method. Generally, when women returned to the clinic to get more of their contraception method, they reported being asked whether they were experiencing problems with their existing method. If they did not express dissatisfaction, they would continue to receive the same method of contraception. Women rarely described being given updated information about the methods available to them, some of which may better meet their needs than their current method. For example, longer term methods such as the IUD or the implant are often more suitable than the injection or oral contraceptives for women who are not seeking to have a child in the near future.

The quality of counselling on contraception relates to the more general nature of communication and interactions between women and healthcare staff. A few respondents reported that they had positive experiences with providers. One respondent described feeling comfortable discussing a problem with the nurses:

"Yes, at one time I had irregular menstrual periods. I use to have my periods for five days and when I used contraceptives it changed into ten days and the flows were heavy. I didn't have money to buy pads anymore. I went to the clinic to tell the nurses about my problem. They told me that contraceptives do that sometimes. They recommended another contraceptive. They encouraged me to visit the clinic whenever I have a problem and report it to them so that they can help me." [Respondent 31]

However, this description of support and encouragement was not the norm. More generally, the respondents reported that the interactions between the respondents and healthcare workers were routine and lacked opportunities for further communication. For example:

"When I go there [to the clinic] *I just take my folder and go to the nurse. Once they have injected me I go straight home."* [Respondent 37]

The provision of injectable contraceptives after birth

Like the quantitative results presented above, the qualitative data also revealed the commonplace use of injectable contraceptives, especially following delivery. When asked about their history of contraceptive use, many respondents described being given the injection after labour, prior to being discharged from the hospital.

Women reported that when they are offered contraceptives after birth they are offered a very limited choice in methods. Generally they are only given a choice between the two-month injection or the three-month injection. If a woman has used contraception before, she is often only offered the same method again. They receive little to no information about potential side effects. The following quote is a typical description of this interaction from a respondent who was given Petogen (generic equivalent of Depo-Provera) after delivering her youngest child:

Interviewer: *When did you get the information about Petogen?*
Respondent: *I wasn't told anything about Petogen. After I gave birth I was asked what I used before. I told them I used Petogen*.
Interviewer: *How long after you gave birth was the injection given to you?*
Respondent: *It was given when I was about to go home*.

[…]
Interviewer: *During all your pregnancies did you feel you were in the right position to agree with them when they asked you to use a contraceptive?*
Respondent: *They didn't ask me anything. All they did … They called me to [come and] have contraception and they advised me to check the follow-up date on my card if I didn't want a baby*. [Respondent 30]

While women are often offered a choice between the two- or three-month injection, they are not offered the fundamental choice about whether or not they would like to use a contraceptive method. The interaction between newly delivered women and healthcare workers is brief and the receipt of the contraceptive injection is interpreted by women as a routine. For example:

Interviewer: *Can I ask, when you say you are injected immediately after giving birth, is it something standard or normal that is done to everyone that after birth you are given a contraception injection?*
Respondent: *Yes, they do that. They tell you that they are going to give you a contraceptive injection. Like when I gave birth to this one [referring to her accompanying child]*.
[Respondent 22]

Similarly:

Interviewer: *After you had a baby […] did you use any contraceptive?*
Respondent: *Yes, they gave us some contraceptive after birth*.
Interviewer: *Did they ask you if you wanted to use any contraceptive or not?*
Respondent: *No, we weren't given a choice. They [only] asked us which contraceptive we were going to use*. [Respondent 32]

In general, the in-depth interviews (along with the quantitative data) revealed that the discontinuation of contraceptives, specifically injectable contraceptives, is common. In the interviews, women commonly described not returning to the clinic to receive their next injection because they were experiencing unwanted side effects from their contraception:

Interviewer: *Before you became pregnant, were you using any contraceptives?*
Respondent: *Yes, I used an injection. I saw that the injection makes you menstruate and the periods came at random times. I used to go on my periods all the time, so I decided to stop*.
[Respondent 12]

Other commonly mentioned unwanted side effects include irregular and heavy menstrual bleeding, headaches and fatigue. A number of women described how, when they were receiving their injection, the healthcare worker did not explain some of the possible side effects that they might anticipate as users of these contraceptive methods.

Interviewer: *So after you gave birth to your first born, how soon after that did you go back to using contraceptives?*
Respondent: *It was on the same day I gave birth*.
Interviewer: *And when you were given the injection, did the health care staff give you an explanation about the injection and talk to you about the side effects?*
Respondent: *No they didn't, they just give you the injection*. [Respondent 13]

Thus rather than having the information that would allow women to understand that certain side effects of their contraceptive method are normal or having an awareness about alternative options available to them, many women who experience unwanted side effects do not return to the clinic for their follow-up appointment. Respondent 13 goes on to explain how she discontinued the injection after experiencing prolonged bleeding:

"I noticed that when I was on the injection, I would be on my periods for a much longer time; but once I stopped taking the contraceptive my periods would go back to normal. I then decided to stop."
[Respondent 13]

In addition, the high rates of discontinuation among users of injectable contraception appear to be related to the very widespread provision of this method of contraception to women after labour. A number of our respondents described receiving this method of contraception needlessly because they were unlikely to be having sexual intercourse in the first two to three months following birth.

Interviewer: *Were you ready to use contraceptives again after birth?*

Respondent: *No, I wasn't ready because I didn't have a boyfriend*. [Respondent 34]

Similarly,

Interviewer: *After you gave birth did they give you any injection for contraception?*
Respondent: *Yes, but I didn't continue with it because I didn't have a boyfriend as I was raising her*. [Respondent 32]

With no, or limited, motivation or need to use contraception, these women often do not return to the clinic to receive their next injection.

Discussion

Using both qualitative and quantitative data, we examined the reproductive intentions and contraceptive use among a cohort of WLWH. First, we described the reproductive intentions among 471 ART-initiated WLWH during the pre- and post-partum period. Second, we analysed the trends in contraceptive method choice over the same timeframe in this cohort. Third, we explored their experience of contraceptive services in the post-partum period. We analysed the findings of the study using a quality of care approach, focussing on three aspects: choice of contraceptive methods, information given to users and provider–client relations.

Choice of contraceptive methods

Injectable contraceptives are the most widely used contraceptive in this study, with up to 74% of women using this method over the study period. Many women prefer to use this method: at first ANC visit, over 80% of the responses for intended method of contraception included either the two- or three-month injection. However, the in-depth interviews revealed that this is largely because this is the method with which respondents were familiar. Women are opting to use injectable forms of contraception because these are the methods which are most commonly used among their peers.

That the method mix in this population remains dominated by injectable contraceptives is unexpected, given South Africa's progressive contraceptive policy, which is grounded in a rights-based framework. The document specifically emphasises the need to reduce reliance on injectable contraceptives through expanding the availability of a variety of methods. Correspondingly, there has been an effort to increase the access to long-acting reversible contraceptives (LARCs). Nationally, the contraceptive implant was introduced in 2014 and over 6000 healthcare providers were trained in insertion.[26] We find a quarter of women who had planned to use another method were using implants after birth. However, compared with the usage of injectable contraceptives, rates of LARC (both implants and IUDs) use remain low both in this study, as well as nationally.[27] The results of our study suggest that injectables continue to dominate the method mix because women report that they receive little information on the variety of contraceptive methods that are supposed to be available to them. Similarly, Chersich et al.[27] conclude that the injectable remains common in South Africa because the majority of women are unable to access other methods of contraception.

Information given to users and provider–client relations

The findings of our research suggest that women lack information about contraception because of poor quality or inadequate counselling from healthcare workers.

Echoing other research and reports in the South African popular press,[28,29] we find that the use of injectable contraceptives is remarkably high following birth, which the interviews revealed to be a result of healthcare workers giving women injectable forms of contraception in the hours following birth. The delivery of injectable contraceptives to women in the hours following birth is a procedure that emerged during apartheid and became so common that healthcare workers referred to it as the "fourth stage of labour". While this practice was documented by researchers during that time,[17,30] to our knowledge there has been little formal evidence that it continues in the current era.

Further findings from this study raise important concerns about this practice. First, half of the women who, at first ANC visit, did not indicate a desire to use injectable contraceptives were using injectables after birth, revealing that healthcare workers are giving injectable contraceptives to women who were not seeking to use this method. The interviews suggest that healthcare workers may not always present the procedure as optional. As a result, a number of women received the contraceptive injection while they were highly unlikely to be having sexual intercourse in the months following childbirth. Indeed, a study conducted in the

same clinic as this study found that 78 out of 82 women had not had sexual intercourse by 6 months post-partum (Dr D. Davey, Postdoctoral Research Fellow, personal communication, 17th January 2017).

This highlights the urgent need for nuanced post-partum counselling that upholds right-based contraceptive use in the post-partum period, including women's right to not use a method if that is their choice. Healthcare providers need to ensure women receive information about the importance of spacing pregnancies. In this regard, healthcare workers need to initiate an open and trusting conversation with women about whether they will be breastfeeding and about their agency to avoid sex should they not want to have it, and about the benefits of contraceptive use in this period if their agency is restricted in this regard. This conversation should include the issue of breastfeeding, lactational amenorrhea and progestin-only contraceptives as a hormonal method option for women who are breastfeeding.[31] This discussion will enable women to make fully informed decisions about contraceptive use after birth.

Our analysis has revealed high rates of contraceptive discontinuity, which is also associated with poor quality contraceptive counselling and a lack of trust and open communication between women and healthcare providers. Currently, family planning services are not integrated into HIV services in South Africa and the women in this study were accessing contraceptive services both in the maternity context and in family planning services for both WLWH and HIV-uninfected women. In these services, the poor quality of counselling seems to be associated with the high rates of injectable contraceptive discontinuation we observed. By 18 months after birth, only 2% of women desired another child within 12 months, while over 20% of women were not using any method of contraception. We have identified a connection between negative interactions between women and healthcare workers and contraceptive discontinuation. Two respondents suggested that their experience of verbal abuse from healthcare workers contributed to their contraceptive discontinuation. Similarly, the results of our study suggest that women's lack of information about contraception means that they are unprepared for side effects, and if they arise many discontinue use. Thus, with increasing time after birth, there was a corresponding increase in the risk of unintended pregnancy among our study population.

This finding speaks to earlier research from South Africa, which revealed how users of injectable contraceptives commonly arrived late for their follow-up appointments and did not receive their re-injection, resulting in unintentional discontinuation (this study was not specific to WLWH).[32] We echo the call of Schwartz et al.[33] for the integration of family planning counselling messages into routine HIV services in order to better support WLWH to make more informed decisions about contraception and contraceptive continuation. However, the findings of this research speak to the need to improve patient–provider interactions and counselling for contraception for both HIV positive and negative women. Women need to receive balanced counselling about the choice of methods appropriate to their needs. They need to be aware of the available methods, the benefits and possible side effects of each in order to make an informed choice.

Further research is needed to establish the reasons why, despite such a strong policy framework and government attempts to introduce new contraceptives, women's contraceptive choices remain limited. As part of this, there is a need to understand the extent to which this is a reflection of contraceptive supply issues, the availability of healthcare providers trained in LARC insertion and removal or the contraceptive preferences of healthcare providers. In terms of practice, urgent improvements in the communication between women and healthcare providers need to happen in order to ensure women's reproductive rights are upheld. High-quality counselling is the only mechanism that will enable women to make fully informed choices about contraception and childbearing. In addition, improved counselling is known to have numerous positive effects on contraceptive continuity rates.[34] Community sensitisation will assist in creating demand for new methods.

Strengths and limitations

The strengths of this study lie in its mixed methods approach. The longitudinal quantitative component enabled us to examine the distributions of contraceptive use and discontinuation by method across six study visits up to 18 months post-partum. The qualitative data then enabled us to understand the reasons for the high rates of discontinuation as well as shedding light on the issue of post-partum delivery of injectable contraceptives. Although this study focused on WLWH, the method mix and patterns of

discontinuation in this study resemble those found within the general population.[27,35] Nevertheless, the fact that the sample only included WLWH from a single site in the Western Cape places limits on the generalisability of our findings. Our interpretations of the inconsistencies between intended method use at ANC and actual post-partum use were limited by our lack of data on the reasons for this. (The parent study, MCH-ART, was not primarily designed to examine contraceptive outcomes). Furthermore, the low rates of retention in the last two data collection points (12 and 18 months post-partum) mean that these results should be interpreted with caution. Finally, our inability to include data on condom use is a further limitation.

Conclusion

Through an innovative mixed methods approach, we examined the reproductive intentions and contraceptive use among a cohort of WLWH in South Africa. Using quality of care as a theoretical framework, our study suggests that WLWH lack choice in contraceptive methods, and poor quality counselling services and provider-client relations are associated with women frequently being unable to make informed and autonomous choices about their contraception. We observed high rates of discontinuation of injectable contraceptives resulting in a mismatch between women's contraceptive use and childbearing intentions, and a corresponding increase in risk of unintended pregnancy. This study highlights the urgent need for improvements in post-partum contraceptive services. In particular there is a need to improve contraceptive method accessibility (especially LARCs), the breadth of information given to women during counselling, and providers' understanding of the importance of patient-informed choice.

Disclosure statement

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References

1. Cooper D, Harries J, Myer L, et al. Life is still going on: reproductive intentions among HIV-positive women and men in South Africa. Social Sci Med. 2007;65:274–283.
2. 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 STDS. 2007;21:278–285.
3. Maier M, Andia I, Emenyonu N, 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 Behav. 2009;13 (Suppl. 1):28–37.
4. Kaida A, Laher F, Strathdee SA, 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. Am J Public Health. 2011;101:350–358.
5. UNAIDS. UNAIDS data. Geneva: UNAIDS; 2016.
6. WHO. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Geneva: WHO; 2013.
7. Bearak J, Popinchalk A, Alkema L, et al. Global, regional, and subregional trends in unintended pregnancy and its outcomes from 1990 to 2014: estimates from a Bayesian hierarchical model. Lancet Global Health. 2018;6: e380–e389.
8. Cohen SA. Hiding in plain sight: The role of contraception in preventing HIV. Guttmacher Policy Rev. 2008;11:2–5.
9. Rochat TJ, Richter LM, Doll HA, et al. Depression among pregnant rural South African women undergoing HIV testing. J Am Med Assoc. 2006;12:1376–1378.
10. Iyun V, Brittain K, Phillips TK, et al. Prevalence and determinants of unplanned pregnancy in HIV-positive and HIV-negative pregnant women in Cape Town, South Africa: a cross-sectional study. BMJ Open. 2018;8(4):e019979. doi:10.1136/bmjopen-2017-019979.
11. Schwartz SR, Rees H, Mehta S, et al. High incidence of unplanned pregnancy after antiretroviral therapy initiation: findings from a prospective cohort study in South Africa. Plos One. 2012;7:e36039.
12. Schwartz SR, Mehta SH, Taha TE, et al. 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 Behav. 2012;16:69–78.
13. 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. Dev World Bioeth. 2008;8:11–22.
14. World Health Organisation. Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV and syphilis. 2nd ed. Geneva: World Health Organisation; 2017.
15. UNAIDS. UNAIDS data. Geneva: UNAIDS; 2017.
16. Holtz SA, Thetard R, Konopka SN, et al. A systematic review of interventions to reduce maternal mortality among HIV-infected pregnant and postpartum women. Int J MCH AIDS. 2015;4:11–24.
17. Kaufman CE. The Politics and Practice of Reproductive Control in South Africa: A Multilevel Analysis of Fertility and Contraceptive Use. Doctor or Philosophy, University of Michigan; 1996.
18. South African Government. National contraception and fertility planning policy and service delivery guidelines (2012 update). Pretoria: Department of Health; 2012.
19. South African Government. National contraception service delivery guidelines. Pretoria: Department of Health; 2003.
20. Donabedien A. The quality of care: how can it be assessed? J Am Med Assoc. 1988;260:1743–1748.
21. Jain AK. Fertility reduction and the quality of family planning services. Stud Fam Plann. 1989;20:1–16.
22. Rogow D. (1986). Quality care in international family planning: A feminist contribution. International Women's Health Coalition and the Population Council.
23. Myer L, Phillips TK, Hsiao NY, et al. Plasma viraemia in HIV-positive pregnant women entering antenatal care in South Africa. J Int AIDS Soc. 2015;18(1):20045. doi:10.7448/IAS.18.1.20045.
24. Myer L, Phillips TK, Zerbe A, et al. Optimizing Antiretroviral Therapy (ART) for Maternal and Child Health (MCH): Rationale and Design of the MCH-ART study. J Acquir Immune Defic Syndr. 2016;72:S189–S196.
25. Saldana J. The coding manual for qualitative researchers. London: SAGE Publications; 2009.
26. Pleaner M, Morroni C, Smit J, et al. Lessons learnt from the introduction of the contraceptive implant in South Africa. S Afr Med J. 2017;107:933–938.
27. Chersich MF, Wabiri N, Risher K, et al. Contraception coverage and methods used among women in South Africa: a national household survey. S Afr Med J. 2017;107:307–314.
28. Rucell J. (2017). Obstetric violence & colonial conditioning in South Africa's Reproductive Health System. Doctoral Thesis, University of Leeds.
29. Green A. Contraception, HIV and control over black women's bodies. HEALTH-E News, 12th February; 2018.
30. Baldwin-Ragaven L, London L, De Gruchy J. An ambulance of the wrong colour: health professionals, human rights and ethics in South Africa. Cape Town: University of Cape Town Press; 1999.
31. Kelsey JJ. Hormonal contraception and lactation. J Hum Lact. 1996;12:315–318.
32. Baumgartner JN, Morroni C, Mlobeli RD, et al. Timelineness of contraceptive reinjections in South Africa and its relation to unintentional discontinuation. Int Fam Plan Perspect. 2007;33:66–74.
33. Schwartz S, Papworth E, Thiam-Niangoin M, et al. An urgent need for integration of family planning services into HIV care: the high burden of unplanned pregnancy, termination of pregnancy, and limited contraception use among female sex workers in Cote d'Ivoire. J Acquir Immune Defic Syndr. 2015;68(Suppl 2):S91–98.
34. Dehlendorf C, Krajewski C, Borrero S. Contraceptive counseling: best practices to ensure quality communication and enable effective contraceptive use. Clin Obstetr Gynecol. 2014;57:659–673.
35. Statistics South Africa. Demographic and health survey 2016: key indicators report. Pretoria: Statistics South Africa; 2016.

Résumé

Les femmes vivant avec le VIH ont de tout temps été vulnérables aux conseils partiaux des agents de santé concernant la contraception et la maternité. Néanmoins, le traitement antirétroviral (ARV) a rendu la maternité plus sûre, ce qui nécessite un réexamen des services contraceptifs afin de savoir s'ils permettent de mettre en pratique les intentions reproductives des femmes séropositives. Nous avons utilisé des données quantitatives longitudinales sur le choix et l'utilisation des

Resumen

Históricamente, las mujeres que viven con VIH han sido vulnerables a recibir consejos sesgados de trabajadores de salud sobre la anticoncepción y la maternidad. Sin embargo, gracias a la terapia antirretroviral (TAR), la maternidad es más segura, lo cual nos insta a reexaminar si los servicios de anticoncepción permiten la realización de las intenciones reproductivas de las mujeres que viven con VIH. Utilizamos datos cuantitativos longitudinales sobre la elección y el uso del

contraceptifs, et les intentions relatives à la maternité dans (jusqu'à) six entretiens entre la première consultation de soins prénatals et 18 mois après l'accouchement dans une cohorte de 471 femmes séropositives ayant commenté un ARV au Cap, en Afrique du Sud. Trente-neuf de ces femmes ont été sélectionnées de manière aléatoire pour un entretien approfondi où elles ont décrit leur expérience des services de contraception et de l'emploi de contraceptifs. Nous avons constaté une prévalence élevée d'utilisation d'un contraceptif injectable après la naissance (74%). Plus la période du postpartum avance, plus la proportion de femmes abandonnant cette méthode augmente (18 mois après la naissance, 21% n'utilisaient pas de contraception), alors que le désir d'un autre enfant demeure stable. Nous trouvons peu de cohérence entre le choix et l'emploi de la méthode: beaucoup de femmes qui ont choisi le stérilet, la stérilisation ou un contraceptif oral lors de leur première visite prénatale utilisent un contraceptif injectable après la naissance. Les femmes ont fréquemment indiqué qu'elles avaient reçu un contraceptif injectable peu de temps après l'accouchement, notamment celles qui avaient précédemment choisi d'utiliser une autre méthode ou pas de méthode. Parmi les femmes vivant avec le VIH, les méthodes injectables dominaient l'éventail des méthodes contraceptives. En dépit d'une politique fondée sur les droits de l'homme et des tentatives d'introduire de nouvelles méthodes, les services contraceptifs en Afrique du Sud restent largement inchangés dans le temps. Les femmes sont fréquemment dans l'incapacité de faire des choix autonomes. Malgré le faible désir d'une nouvelle grossesse, nous avons observé un taux élevé d'abandon des méthodes de contraception, qui aboutit à un risque accru de grossesse non désirée.

método anticonceptivo, y las intenciones de maternidad, que fueron recolectados en (hasta) seis entrevistas entre el inicio de la atención prenatal (APN) y los 18 meses posparto, con una cohorte de 471 mujeres que iniciaron TAR en Ciudad del Cabo, en Sudáfrica. De esas mujeres, 39 fueron seleccionadas al azar para participar en entrevistas a profundidad, en las que describieron sus experiencias con los servicios y el uso de anticoncepción. Encontramos alta prevalencia de uso de anticonceptivos inyectables (AI) después del parto (74%). A medida que avanza la duración del posparto, un mayor porcentaje de mujeres abandonan este método (a los 18 meses el 21% no estaba usando anticoncepción), mientras que los deseos de tener otro hijo continúan estables. Encontramos poca concordancia entre la elección y el uso del método: muchas mujeres que eligieron usar el dispositivo intrauterino, esterilización o anticonceptivos orales durante la primera consulta de APN usan AI después del parto. Las mujeres comúnmente informan recibir AI poco después del parto, incluso aquéllas que anteriormente habían elegido usar otro método o ningún método. Entre las mujeres que viven con VIH, los inyectables dominaron las opciones de métodos anticonceptivos. A pesar de una política arraigada en los derechos humanos e intentos de lanzar nuevos métodos, los servicios de anticoncepción en Sudáfrica han permanecido en gran parte inalterados a lo largo del tiempo. Las mujeres frecuentemente no pueden tomar decisiones autónomas sobre sus opciones anticonceptivas. A pesar de que tienen pocos deseos de tener futuros embarazos, observamos altas tasas de abandono del método anticonceptivo, lo cual aumenta el riesgo de embarazo no intencional.