Reproductive desires of men and women living with HIV: implications for family planning counselling

Cornelia van Zyl [a], Maretha J Visser [b,*]

[a] *Wilgers Infertility Clinic, Wilgers Hospital, Pretoria, South Africa;* [b] *Department of Psychology, University of Pretoria, South Africa*

* Corresponding author. *E-mail address:* maretha.visser@up.ac.za (MJ Visser).

Abstract The reproductive desires of people living with HIV/AIDS (PLHIV) of low socioeconomic standing attending public health facilities in South Africa were studied. HIV-positive men, pregnant and non-pregnant women were recruited from two clinics at a large public hospital in Tshwane, South Africa. Individual interviews were used to explore the reproductive desires of HIV-positive participants. HIV counsellors' perceptions of their clients' reproductive desires were explored during focus group discussions. Parenthood proved to be an important factor to all participants in continuation of the family and establishing their gender identities, despite the possible risk of HIV transmission and community stigmatization. Different cultural procreation rules for men and women and stigmatizing attitudes towards PLHIV affected their reproductive decision making. Women had the dilemma of choosing which community expectations they wanted to fulfil. Community stigmatization towards PLHIV was visible in the negative attitudes of some HIV counsellors regarding HIV and procreation. Because the reproductive desires of PLHIV are currently not given high priority in HIV prevention and family planning in the public health sector in South Africa, the prevention of HIV transmission may be jeopardized. These results necessitate the integration of HIV and sexual and reproductive health counselling on a primary health care level

KEYWORDS: counselling, family planning, HIV, reproductive age, reproductive desires, risk reducing interventions

Introduction

The prevalence of human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) in South Africa ranks among the highest in the world. The latest statistics show that an estimated 18.8% of the population aged 15 to 49 years is infected with HIV (Shisana et al., 2014). Women in the age group 30 to 34 years have the highest HIV prevalence (36.0%), while the highest HIV prevalence among men is in the age group 35 to 39 years (28.8%) (Shisana et al., 2014). These men and women are of reproductive age. Almost a third (31.4%) of all babies born in South Africa are exposed to HIV (Cooper et al., 2013; Department of Health, 2012). This is cause for concern because of the risks of HIV transmission to the sexual partner through unprotected sex and vertical transmission to the unborn infant. Fortunately the progress made in prevention of mother-to-child transmission (PMTCT) has decreased the risks of vertical transmission to an estimated 3.5% of babies born to HIV-positive mothers (Department of Health, 2012; Hussain et al., 2011). Currently 87.1% of HIV-infected pregnant women in South Africa have access to PMTCT (Department of Health, 2012; UNAIDS, 2013). This increases the probability of having an uninfected baby.

Additionally, advances in antiretroviral treatment (Department of Health, 2013) have lowered the risk of sexual transmission of HIV (Tanser et al., 2013). While 75.2% of PLHIV are eligible for antiretroviral treatment (Department of Health, 2012), Shisana et al. (2014) reported that only 28.9% of HIV-infected individuals between the ages of 15 and 49 years are exposed to antiretroviral treatment. Treatment as prevention (World Health Organization, 2012) is not implemented throughout the public health care system yet (Department of Health, 2013; Gonzalez, 2014). Exposure to antiretroviral treatment has lowered but not eliminated HIV risk.

The lowered risk of HIV transmission, increased life expectancy and health accompanying antiretroviral treatment (Hussain et al., 2011; Van Dyk, 2012) have boosted the desire of PLHIV to have children (Mantell et al., 2009; Sarnquist et al., 2013). Various studies acknowledge the desire of PLHIV to have children (Nattabi et al., 2009). Among HIV-positive women at clinics in the Eastern Cape (South Africa) 38.8% expressed a pregnancy desire and only 65.8% reported condom use (Peltzer et al., 2009). Oladapo et al. (2005) reported that in a sub-urban clinic in Nigeria 71.5% men and 93.3% women living with HIV wanted children.

Several studies found that the desire to have children was higher among young people, men and people with no or few children (Myer et al., 2006; Nattabi et al., 2009; Oladapo et al., 2005; Phaweni et al., 2010), people living in informal settlements and those using antiretroviral treatment (Cooper et al., 2009; Myer et al., 2007). Cultural factors were especially important in the desire to have children for PLHIV from sub-Saharan African countries (Nattabi et al., 2009). Craft et al.(2007) reported that HIV-positive women who experienced high levels of personalized stigma were less likely to disclose their status to their partners and also more likely to desire having children (Oladapo et al., 2005; Phaweni et al., 2010) The sexual and reproductive desires of PLHIV are not perceived as significantly different from those who are not infected (Nebie et al., 2001). Additionally, the same human rights apply to those infected and not infected (Currie and de Waal, 2005).

Despite this, the reproductive desires of PLHIV were, until recently, mostly ignored in HIV-prevention strategies and reproductive health policies in South Africa (Mantell et al., 2009).

Because of the risks involved, health care workers tend to encourage PLHIV to use condoms and discourage them from having unprotected sex and having children (Cooper et al., 2007; Kawale et al., 2013; Mantell et al., 2009). The lack of appropriate family planning services for women living with HIV (Alkema, 2013; United Nations Children's Fund, 2013) has resulted in high levels of unplanned pregnancies. Unplanned pregnancies involve higher HIV risk and could undermine efforts to eliminate new infections (Alkema, 2013; United Nations Population Fund, 2012). Goga et al. (2010) highlighted in their study in KwaZulu-Natal (South Africa) that 62% of pregnancies in PMTCT programmes at the time were unplanned. Similarly it was found in a study involving 10 countries with the highest adult HIV prevalence rate (including South Africa) that 25% of women living in these countries do not have access to contraceptives despite their desire to use contraception (Choi and Whetten, 2012).

To assist PLHIV in safer reproduction, reproductive HIV risk reducing intervention (RRI) is necessary. It involves reproductive counselling guidelines as well as techniques to minimize HIV transmission during conception. RRI techniques vary from low technology (such as timed intercourse and self-insemination) to high technology techniques (such as IVF with washed sperm) (Bagratee, 2007; Fourie et al., 2015; Mantell et al., 2009; Semprini and Hollander, 2007; Vernazza et al., 2006). Recently, guidelines for safer conception among PLHIV in resource-intensive and resource-limited contexts were developed for South Africa (Bekker et al., 2011). RRI is currently available to PLHIV in South Africa who can afford the services in the private sector. The public health sector has not as yet given priority to the implementation of these guidelines. There are only limited family planning and basic reproductive services to assist PLHIV from lower socioeconomic standing to realize their reproductive desires in a safe way (Cooper et al., 2009; Mantell et al., 2009; Osman, 2011).

Departing from this background the following research questions guided the current research: (i) What underlying social processes influence the reproductive desires of men and women living with HIV who are attending public health services? (ii) Does the possible risk of HIV transmission affect reproductive desires among PLHIV? and (iii) What are the implications of their reproductive desires for family planning counselling aimed at HIV prevention?

Materials and methods

Research methods

To explore the experiences and interpretations of individuals, a qualitative research design implementing the method of grounded theory (Strauss and Corbin, 1990) was used. The aim was to understand how the respondents 'feel inside, how they create meaning and how their experiences and motivations can be used to understand them' (Neuman, 1994, p. 61). Grounded theory provides the researcher with systematic yet flexible guidelines for collecting and analysing qualitative data. The aim is to integrate the emerging dominant concepts/

themes in order to explain the latent social pattern underlying the behaviour (Bryant and Charmaz, 2007).

Research context

This study was done at a large public health hospital in the metropolitan area of Tshwane (South Africa) during 2012. The rate of antiretroviral treatment coverage in the City of Tshwane during this time was 88.1% of the eligible population (Foundation for Professional Development©, 2011; Gerritsen et al., 2012).The specific hospital provides services to a predominately African community, representing various cultural groups. The socio-economic status of the community is below average and is characterized by high levels of unemployment. The antiretroviral treatment clinic at this specific hospital provides HIV testing and treatment and is attended by approximately 200 patients per month. The antenatal clinic at the same hospital offers pre- and antenatal care to pregnant women and is attended by approximately 1200 women per month. All the HIV-positive pregnant women are routinely entered into the PMTCT programmes (National Department of Health and South African National AIDS Council, 2010). The infection rate of pregnant women was estimated at 25.7%, although there were no data available on the percentage of HIV-positive pregnant women receiving PMTCT (Foundation for Professional Development©, 2011; Gerritsen et al., 2012).

Participants

Participants in this study were reproductive age HIV-positive men (n = 10; ages 29 to 46), non-pregnant women (n = 11; ages 22 to 38) and pregnant women (n = 12; ages 19 to 32), as well as the HIV counsellors (10 female and 2 male) from both the antiretroviral treatment and antenatal clinics of the same hospital in the previous section. The researcher purposefully recruited the HIV-positive men and women using the following two criteria: (i) they must have known their HIV-positive status for at least 6 months; and (ii) be within their reproductive years (15 to 49 years). The HIV-positive men and non-pregnant women were recruited from the antiretroviral treatment clinic, while the HIV-positive pregnant women were recruited from the antenatal clinic. The researcher recruited 12 HIV counsellors from both clinics, who participated in two focus group discussions. The HIV counsellors provided insights into the reproductive desires of PLHIV and current counselling practices, since they counsel between 15 and 20 clients per day. Their counselling experience ranged between 4 months and 6 years. Both the HIV-positive participants and the HIV counsellors belonged to the black community in South Africa.

Interviews and focus group discussions

Because of the sensitive nature of the experiences of HIV and to be able to explore their reproductive desires, the researcher conducted in-depth semi-structured interviews with reproductive-age PLHIV. The following questions were included in the interview guide: (i) What does it mean to you to be a father/mother? (ii) If you could not have a child, how would it change your life? (iii) What is the attitude of people in your community towards PLHIV having babies? and (iv) Do you know about safe ways of having a baby when you are HIV-positive?

Focus group discussions were conducted with HIV counsellors to explore their perceptions of the reproductive desires of their clients and current counselling services. Focus group discussions were preferred because it provides a naturalistic setting where a process of social influence contributes to participants' opinions (Gaskell, 2000). During focus group discussions the researcher holistically explored the views of the HIV counsellors. The following areas were discussed: (i) the HIV counsellors' perception of the reproductive desires of PLHIV; and (ii) the HIV counsellors' knowledge of repro-ductive counselling guidelines and RRI to minimize HIV transmission.

All interviews and group discussions were conducted by the researcher and in English, but with the aid of a counsellor that could speak the participants' vernacular present in the interviews and focus group discussions to enhance communication. In both the interviews and focus group discussions, the criterion of saturation applied to determining the sample size; the researcher continued to interview until no more new information was found (Strauss and Corbin, 1990). The primary focus of both the interviews and focus group discussions was 'information-rich' data and not generalization to a population (Charmaz, 2006).

Data analysis

Interviews and focus group discussions were tape recorded and transcribed by the researcher for analysis. The emerging dominant themes from this research were generated by applying grounded theory principles to explicate the underlying social processes playing a role in the reproductive desires of PLHIV. The systematic method of analysis associated with grounded theory involved the concurrent collection and analysis of data (Charmaz, 2006). Inferring the experiences and perceptions of reproductive-age PLHIV, as well as those of the HIV counsellors, helped the researcher to interpret and understand the underlying processes influencing their reproductive desires.

Analysis started with line-by-line open coding (Charmaz, 2006; Strauss and Corbin, 1990). Through constant comparison within and between study groups, categories were created by grouping similar concepts/themes. Open coding was fol-lowed by axial and selective coding, where themes were con-ceptualized and integrated in order to explain the latent social pattern underlying the reproductive behaviour (Bryant and Charmaz, 2007). This is illustrated in **Figure 1**. As comparisons are a major tool in grounded theory, a research assistant was involved in the study to confirm the consistency and trustworthiness of the data that was captured in the transcriptions and coding done by the researcher.

Ethical approval

The research was approved by the Ethics Committee of the Faculty of Humanities, University of Pretoria and the health

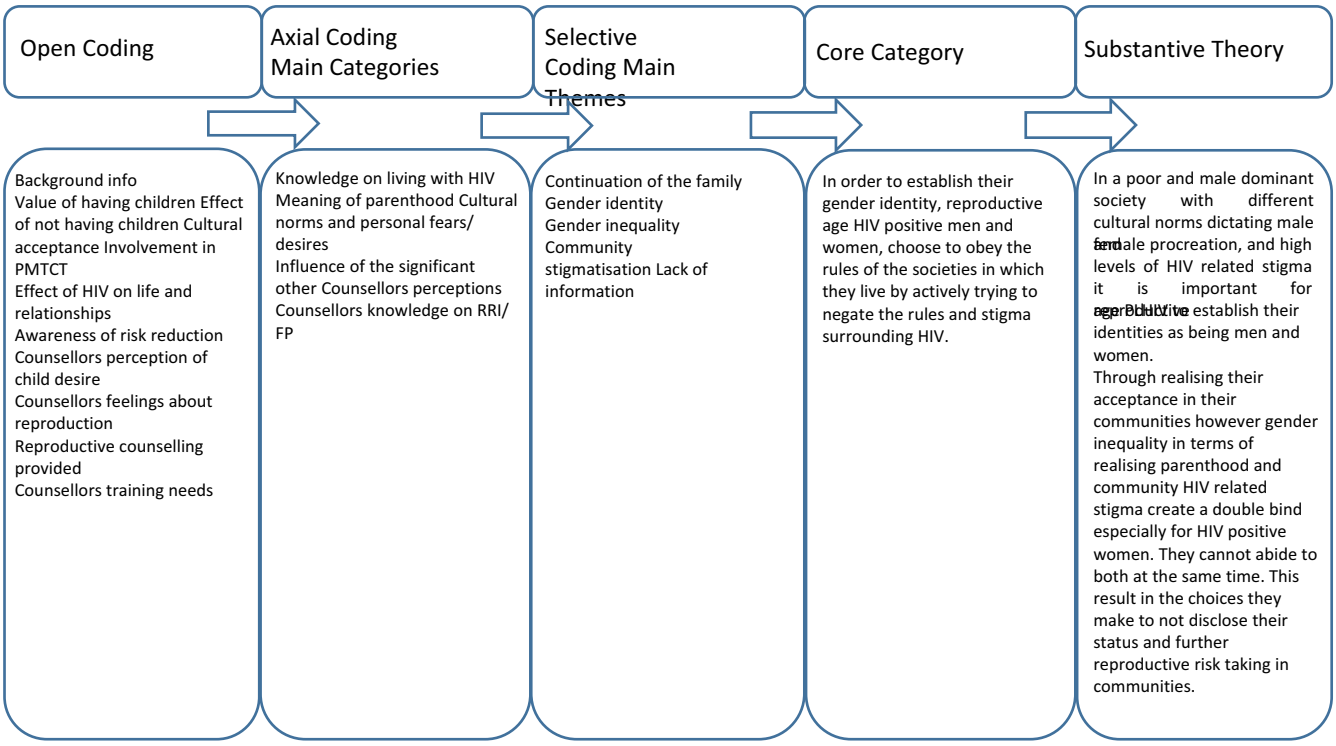

Figure 1 Process of data analysis. FP = family planning; PLHIV = people living with HIV/AIDS; PMTCT = prevention of mother-to-child transmission; RRI = risk reducing intervention.

authorities on 9 January 2009. All participants agreed to the research voluntarily with written informed consent. Tape re-cordings were handled confidentially and anonymously by giving participants numbers and removing all identifying markers.

Results

Through interpretation of dialogue during the individual interviews and focus group discussions, the researcher obtained a glimpse of participants' parental desires and the underlying social patterns that influence these desires. The following five recurring themes (column 3 in **Figure 1**) emerged from the data obtained from interviews with PLHIV.

Continuation of the family

Parenthood was very important to the HIV-infected men and women, despite their knowledge about HIV risks. Having children assured them of future security and support:

> 'To be a parent . . . is very important. I want to see my babies grow up strong, they are my future. The time will come for me to be old, and my children will buy me food.' (Male participant)

Having children is thought to bind the family together and contribute new generations to carry the family into the future:

> 'They want us to have children; the male child is very important; the surname must grow. . .' (Male participant)

> 'If you cannot have a baby they take you back to your family. You have to contribute a baby for the family to carry on.' (Female non-pregnant participant)

Gender identity and procreation within the family and community

Men and women experienced community pressure to become parents to fulfil their gender roles in the family and to gain respect from their communities. Not having children was seen as emotionally devastating, because of the loss of status within their communities. Men's perceived masculinity and status in the community depends on their ability to have a child:

> 'You are being pressured once you are 21 to have children. If you do not have a child there is nobody to call you Baba, you are not man enough, and you are disregarded as a man. They will laugh at you . . . they will tease you . . . they will tell you must make a baby.' (Male participant) 'If you have no children, you are not seen as a human being . . . you are respected if you have a child.' (Male participant)

Women could be disregarded and disrespected in their families for not having any children:

> 'It is how you measure your value and your being as a woman. . . It is a stamp of approval. You must have a husband and a big family. They will disrespect you for not having a baby.' (Female participant)
> 'It is totally unacceptable if you cannot have a baby . . . people will look down on you, they will laugh at you. Your

value as a woman is determined by your ability to have children.' (Female participant)

Gender inequality in procreation

Although men experienced pressure to have children, they had some culturally accepted alternative options. A man could divorce a childless woman or take a second wife to enable him to become a father:

'If I do not have children, I stay my mother's child; I must take another girlfriend to have a baby; I must divorce and marry another wife, or I stay with my wife and adopt.' (Male participant)

Childless women were disrespected in communities. They could be abandoned by their partners and families and consequently lose their financial support. According to a preg-nant HIV-positive participant, the community generally re-ferred to childless women as 'the prostitutes living by themselves'.

'If you are married they give you one year. . . If you do not have babies your husband can turn against you.' (Female non-pregnant participant)

Many women reported that they did not have the power in their relationships to decide on having sex, to use condoms and about becoming pregnant. Their partners dominated their decision making. One woman said that it feels as if 'she does not have a voice'.

Community stigmatization of HIV and procreation rules for PLHIV

Most HIV-positive participants expressed the desire to have a child (or another child if they already had children), but they perceived their communities as being stigmatizing towards PLHIV having babies. It was considered socially unaccept-able for PLHIV to have children while infected, because they were perceived as sick and dying and likely to infect and desert their children:

'They still have that stigma. . . They say it is a risk . . . you are sick and you are going to die . . . you must stay without a child.' (Female participant)
'If you are HIV-positive . . . they condemn it completely that you have children.' (Male participant)

The risk of infecting the baby was a reality for some of the women. If the baby was infected, community members would know her status and that could result in her being rejected:

'My community does not support HIV-positive people having babies. I badly want another child but am very scared of transmitting the virus to my baby.' (Female participant)
'The baby has to test negative, because it makes it better for me if there is a healthy baby.' (Female pregnant participant)

The perceived stigmatizing community attitude caused a dilemma for HIV-positive women. Women were expected to have children to be accepted, but were considered irresponsible in doing so when HIV-positive. Women thus had to choose which of the community expectations they wanted to fulfil. Some of the pregnant women taking part in the study did not welcome their pregnancies and described it as a 'mistake because of my HIV status'. Some of the HIV-positive pregnant women blamed their partners for not wanting to use condoms. Nevertheless, most of the women decided not to disclose their status to their partners for fear of rejection and to have a baby to be accepted by their partners, families and the community:

'If you want a child even if you know you are HIV-positive, you will not disclose it.' (Female pregnant participant) 'I am very scared of rejection because of my status. I do not want them to know, they will turn away from me.' (Female pregnant participant)
'My partner wanted the baby . . . I did not disclose my status . . . I am very scared to disclose, I fear rejection because I am living with his people.' (Female pregnant participant)

The implication was that the HIV-positive pregnant women did not consider ways to limit the potential HIV risk during conception.

A lack of information, training and counselling regarding safer future family planning

Although the HIV-positive participants described counsel-ling services as supportive, they expressed a definite need for information on safe future pregnancies and family planning. Very few participants had any knowledge of safe reproduc-tive services. The family planning counselling they received strongly discouraged them from having children:

'You must stop having children; you must use condoms.' (Male participant)
'No honestly, I do not know about becoming a parent in a safe way. They do not tell you how to deal with it . . . all you see is "condomise".' (Female participant)

The following three prominent themes emerged from the data obtained from focus group discussions with HIV coun-sellors: (i) confirmation of existing reproductive desires; (ii) differences in attitude; and (iii) training needs.

Confirmation of existing reproductive desires

HIV counsellors at both the antenatal and antiretroviral treat-ment clinics confirmed the reproductive desires of their HIV-positive clients. Women would consider various strategies to be able to become pregnant:

'They want another baby before they become sick. They seek information . . . they want to know what are my options. They want to do other forms of fertilization. However, most people do not have the information; they live under the stigma.' (HIV counsellor at the antiretroviral treatment clinic)

Most mothers wanted a healthy baby so that they could prove their own health. If the baby was healthy no one would consider that the mother may be infected:

'They believe they will have another healthy baby because the previous one was unaffected. Another baby will be proof of her own good health.' (HIV counsellor at the antenatal clinic)

Differences in attitude

The discussions revealed different attitudes of counsellors at the antiretroviral treatment and antenatal clinics. The HIV counsellors at the antenatal clinic, who worked with pregnant HIV-infected women, strongly advised them not to have any more babies and to use condoms at all times. They did not even think about giving family planning counselling:

'We never thought about it, we never sat down and actually tell them about their future, especially these younger ones.' (HIV counsellor at the antenatal clinic)

Some of them demonstrated negative attitudes towards their clients' reproductive desires. This negative attitude could have contributed towards the negative feelings expressed by the HIV-positive pregnant women interviewed.

In contrast, HIV counsellors at the antiretroviral treatment clinic were mostly positive about reproduction. Although they did not provide family planning counselling, these HIV counsellors referred their clients to the doctor to discuss reproductive desires:

'I think they have a right to have babies . . . I do support them and encourage them to go ahead and have a family. They must have a family as long as they go for the check-ups and do the right thing and not conceive on their own.' (HIV counsellor at the antiretroviral treatment clinic)

The differences in the attitudes of HIV counsellors might be related to the different focus in their counselling and the different training they received.

Training needs

All HIV counsellors expressed a need for more information on family planning and RRI as they had limited knowledge about family planning specifically for HIV-infected clients. They did not address reproduction during the counselling process at all.

'No actually we do not know about family planning. We need lots of training. If someone ask: I want to have children in a safe way, how do I do it, I will not be able to counsel them.' (HIV counsellor at the antenatal clinic)

The HIV counsellors in both clinics expressed a general need for training to update them on the latest developments in the HIV-field to enable them to provide effective counselling:

'The training counsellors receive is very limited. It should be broader. We need training because the HIV informa-tion changes every day . . . It is a very dynamic field, so we need training whenever there is a new thing, so we can give information. If we are behind with information the people will not get the information.' (HIV counsellor at the antiretroviral treatment clinic).

The differences in attitudes of HIV counsellors in the two clinics mentioned above may be due to a lack of training in family planning and safer ways of conception.

Discussion

The results of the study give a representation of the reproductive desires and decisions of a group of reproductive-age PLHIV. Gender identities, gender inequality, and different procreation rules for PLHIV in the communities where they lived were identified as the dominant underlying processes that influenced reproductive desires and decisions of men and women living with HIV. The participants desired chil-dren because they wanted to continue their families into the future and to fulfil their gender identities in the family and be accepted in their community despite the possible HIV-risk and community stigmatization. Ingram and Hutchinson (1999) described having children as a link to life, as a reason to continue living and as a source of support later in life. Parenthood contributes to one's gender identity, despite different procreation rules for PLHIV. These findings echoed previous findings from across the world (Aka-Dago-Akribi et al., 2001; Oladapo et al., 2005; Paiva et al., 2003; Taylor et al., 2013). This confirms the notion that a choice for parent-hood to comply with social and familial obligations is often regarded as more important than health choices (Aka-Dago-Akribi et al., 1999, 2001; Buseh et al., 2010; Smith and Mbakwem, 2010).

This research showed that men and women living with HIV, when confronted by the stated dilemmas, tended to make different decisions related to their reproductive desires. HIV-positive men had a number of culturally accepted alternative options to realize their reproductive desires, while the HIV-positive women had fewer options. Women were confronted with the dilemma that having a baby could result in community acceptance, although being HIV-positive herself could still result in rejection. They thus had to choose which of the community expectations they wanted to fulfil. A substantial number of women who participated in the research chose not to disclose their status and to live as if they were not HIV-positive. By making this choice HIV-positive women could gain acceptance in the community by being free to have a baby and avoid being stigmatized because of their HIV status. They, however, still carried the burden of keeping secrets regarding their HIV status as well as the fear that their babies might be HIV-positive (Long, 2009). Some HIV-positive pregnant women were therefore confronted with the double stigma of both having HIV and becoming pregnant as an HIV-positive woman (Cooper et al., 2007; Myer et al., 2006). The negative attitudes of some HIV counsellors at the antenatal clinic might be a representation of the stigmatizing attitudes present in the communities where PLHIV live.

Thus, in order to establish their procreation gender identities and to continue their families into the future, HIV-positive women chose to obey the traditional rules of the societies in which they lived to have children and to actively negate the stigma surrounding HIV. The HIV counsellors and previous research reported that women tried to conceal their HIV status by continuing to have more children (Aka-Dago-Akribi et al., 2001; Cooper et al., 2007; Smith and Mbakwem, 2010).

Most of the HIV-positive participants as well as the HIV counsellors taking part in the study did not know about RRI or strategies for safe conception. The HIV counsellors did not address reproduction issues during the counselling process. Some HIV counsellors (e.g. in the antenatal clinic)

demonstrated negative attitudes toward the reproductive desires of PLHIV. These negative judgemental attitudes could constrain health-seeking behaviour (Cooper et al., 2007). Mantell et al. (2009) observed that in the absence of appropriate counselling on how best to avoid HIV transmission when trying to conceive, PLHIV are likely to follow their own reproductive desires without guidance from health care professionals. Because of the fragmentation between HIV and sexual and reproductive health (SRH) programmes (Department of Health, RSA, 2011; Osman, 2011) the reproductive desires of PLHIV are currently not given priority in either HIV prevention or family planning programmes (Mantell et al., 2009). This situation could threaten the prevention of HIV transmission to partners.

The risks involved in the reproductive desires of PLHIV can serve as a basis to advocate more holistic counselling, which should also address the reproductive futures and family planning services for PLHIV. This research provides evidence for advocacy for the integration of HIV and SRH services for PLHIV as part of primary health care services (Bekker et al., 2011; Cooper et al., 2009; Kawale et al., 2013; Mantell et al., 2009; Myer et al., 2007; Osman, 2011; Sarnquist et al., 2013; Smith and Mbakwem, 2010).

Limitations

It should be acknowledged that the research was done in a small sample of PLHIV using qualitative research methods. The participants were all black, because the highest prevalence of HIV in South Africa occurs in the black community (Shisana et al., 2014). Studying a more homogeneous group (e.g. the black community), allowed the researcher to gain in-depth knowledge of the cultural context and influences on behaviour. A study comparing the differences in parenting desires across different cultural groups in South Africa might be comple-mentary in the future.

The researcher, who was an outsider and quite unlike the participants (in terms of culture and socio-economic status), made an effort to put participants at ease during the inter-views. One strategy was to include a counsellor as an inter-preter to allow participants to talk about these intimate experiences in their vernacular. Despite the fact that all par-ticipants spoke and understood English well, language bar-riers could have played a role in the participants' expressions as well as the researcher's understanding of their convey-ance. This could have influenced the validity of the data.

The research was done in one large hospital in the Tshwane municipality. The results can therefore not be generalized to all PLHIV or all areas in South Africa, although it may be transferable to similar contexts (Charmaz, 2006). Although the research was done during 2012, there is no indication from the literature or personal conversations that family planning services have been integrated into HIV care or that HIV RRI has been implemented in the particular hospital. The situation has thus not changed dramatically since the research.

Recommendations

Despite the limitations, specific recommendations follow from this research. It can be applicable to other communities with similar cultural backgrounds.

As PLHIV have the same human rights as those not infected (Currie and de Waal, 2005), it is important that reproductive-age PLHIV be counselled on their reproductive futures and risk-reducing strategies to enable safer reproduction.

HIV counsellors should be trained to provide effective family planning services to PLHIV (Bell et al., 2007; Nulty and Edwards, 2005). The focus in training should be on the guide-lines for safer conception for HIV-infected individuals and couples in resource-limited areas, as proposed by Bekker et al.(2011). Although exposure to antiretroviral treatment de-creases the HIV transmission risk, couples need strategies to optimize a situation for safe conception aligned with their health status. In this way the HIV counsellors will be better equipped to influence existing dominant social and cultural perceptions towards parenthood and HIV that significantly impact on the dilemmas experienced by PLHIV.

The integration of HIV care and SRH services on a primary health care level is urgently needed to attend to the reproductive desires of PLHIV (Sarnquist et al., 2013). Additionally the Department of Health could provide access to accredited centres specializing in basic HIV RRI, such as sperm wash and artificial insemination, to minimize the transmission risk. The services should be culturally appropriate in recognizing various social and cultural beliefs (Taylor et al., 2013). This should be in accordance with the basic human rights enshrined within the South African Constitution (Currie and de Waal, 2005). Public awareness could challenge existing social and cultural perceptions of HIV and parenthood.

South Africa, with its high HIV prevalence, may consider itself obligated to contribute valid data to universal databases, e.g. the Centres for Reproductive Assistance Techniques in HIV in Europe (CREAThE). While this study did not aim to catalogue all the reproductive desires of PLHIV, it may suggest some themes that should be taken into account in dealing with reproductive health issues internationally. Such information obtained from accredited HIV RRI centres in South Africa can make a global contribution to the prevention of the HIV transmission.

Conclusion

This research contributed to understanding the underlying pro-cesses influencing the pregnancy desire of PLHIV in South Africa to have children regardless of potential HIV transmission risks and stigmatization imposed by their communities. This re-search specifically highlighted the dilemmas experienced by women. The findings can serve as a basis to advocate the in-tegration of family planning and HIV counselling. It can also motivate for the development of culturally appropriate RRI, based on the guidelines on safer conception, which can become available to PLHIV from low socioeconomic backgrounds in ac-credited RRI centres (Bekker et al., 2011; Semprini and Hollander, 2007; Vernazza et al., 2006).

Improved access to information, treatment facilities and training regarding HIV RRI for health care staff, HIV counsel-lors and PLHIV can enhance family planning to fulfil the re-productive desires of PLHIV in a safer way. Family planning and RRI can contribute to the array of HIV prevention ser-vices in South Africa.

References

Aka-Dago-Akribi, H., Desgrées Du LoÛ, A., Msellati, P., Dossou, R., Welffens-Ekra, C., 1999. Issues surrounding reproductive choice for women living with HIV in Abidjan Côte d'Ivoire. Reprod. Health Matters 7, 20–29.

Aka-Dago-Akribi, H., Msellati, P., Yapi, D., Welfens-Ekra, C., Dabis, F., 2001. Procreation and child desire of women living with HIV in Abidjan, Cote d' Ivoire. Psychol. Health Med. 6, 283–291.

Alkema, L., 2013. National, regional and global rates and trends in contraceptive prevalence and unmet need for planning between 1990 and 2015: a systematic and comprehensive analysis. Lancet 11, 1642–1652.

Bagratee, J.S., 2007. HIV/AIDS and reproduction: Background and indication for treatment. In: Kruger, T.F., Van der Spuy, Z., Kempers, R.D. (Eds.), Advances in Fertility Studies and Reproductive Medicine. Juta, Cape Town, pp. 414–419.

Bekker, L.-G., Black, V., Myer, L., Rees, H., Cooper, D., Mall, S., Mnyami, C., Conradie, F., Mahabeer, I., Gilbert, L., Schwartz, S., 2011. Guideline on safer conception in fertile HIV-infected individuals and couples. South. Afr. J. HIV Med. 12(2), 31–44.

Bell, E., Mthembu, P., O'Sullivan, S., Moody, K., 2007. Sexual and reproductive health services and HIV testing: perspectives and experiences of women and men living with HIV and AIDS. Reprod. Health Matters 5 (Suppl. 29), 113–135.

Bryant, A., Charmaz, K., 2007. The Sage Handbook of Grounded Theory. Sage, London.

Buseh, A.G., Glass, L.K., McElmurry, B.J., 2010. Cultural and gender issues related to HIV/AIDS prevention in rural Swaziland: a focus group analysis. Health Care Women Int. 23, 173–184. Charmaz, K., 2006. Constructing Grounded Theory: A Practical Guide through Qualitative Analysis. Sage, London.

Choi, D.H., Whetten, K., 2012. Associations between HIV/AIDS funding activities and family planning efforts. Duke University: Stanford school of Public Policy, senior thesis.

Cooper, D., Harries, J., Myer, L., Orner, P., Bracken, H., 2007. Life is still going on'": reproductive intentions among HIV-positive women and men in South Africa. Soc. Sci. Med. 65, 274–283.

Cooper, D., Moodley, J., Zweigenthal, V., Bekker, L.-G., Shah, I., Myer, L., 2009. 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 Behav. 13, S38–S46.

Cooper, D., Moore, E., Mantell, J.E., 2013. Renegotiating intimate relationships with men: how HIV shapes attitudes and experiences of marriage for South African women living with HIV: "Now in my life, everything I do, looking at my health". Acta Jurid. (Cape Town) 2013, 208–213.

Craft, S.M., Delaney, R.O., Bautista, D.T., Serovich, J.M., 2007. Pregnancy decisions among women with HIV. AIDS Behav. 11, 927–935.

Currie, I., de Waal, J., 2005. The Bill of Rights Handbook, fifth ed. Juta, Cape Town.

Department of Health, 2012. Global AIDS response, progress report.

Department of Health, 2013. The South African antiretroviral treatment guidelines, 2013.

Department of Health, RSA, 2011. Sexual and Reproductive health and rights: Fulfilling our commitments, 2011–2021 and beyond. Pretoria: Department of Health.

Foundation for Professional Development©, 2011. The State of HIV/AIDS services response in the City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa 2011. <http://www.foundation.co.za/Compass1/about-fpd/PDFs/City of Tshwane Report 2011.pdf>.

Fourie, J.M., Loskutoff, N., Huyser, C., 2015. Semen decontamination for the elimination of seminal HIV-1. Reprod. Biomed. Online 30, 296–302.

Gaskell, G., 2000. Individual and group interviewing. In: Bauer, M.W., Gaskell, G. (Eds.), Qualitative Researching with Text, Image and Sound. A Practical Handbook. Sage, London, pp. 39–57.

Gerritsen, A.A.M., Mitchell, J.S., White, B., 2012. Provision and need of HIV/AIDS services in the City of Tshwane Metropolitan Municipality, 2010. S. Afr. Med. J. 102, 44–46.

Goga, A., Dinh, T., Jackson, D., 2010. Impact of the national prevention of mother to child transmission (PMTCT) program on mother to child transmission of HIV(MTCT), South Africa. Paper at Sixth International AIDS Society Conference [abstract MOAC0206] Rome.

Gonzalez, L.L., 2014. Changing HIV treatment for expecting mums changes more than pills. Health-e News. <http://www .cabsa.org.za/content/changing-hiv-treatment-expecting -mums-changes-more-pills-3122014>.

Hussain, A., Moodley, D., Naidoo, S., Esterhuizen, T.M., 2011. Pregnant women's access to PMTCT and ART services in South Africa and implications for universal anti-retroviral treatment. PLoS ONE 6, e27907.

Ingram, D., Hutchinson, S.A., 1999. Double binds and the reproductive mothering experiences of HIV-positive women. Qual. Health Res. 10, 117–132.

Kawale, P., Mindry, D., Stramotas, S., Chilikoh, P., Phoya, A., Henry, K., Elashoff, D., Jansen, P., Hoffman, R., 2013. Factors associated with desire for children among HIV-infected women and men: a quantitative and qualitative analysis from Malawi and implications for the delivery of safer conception counselling. AIDS Care 26, 769–776.

Long, C., 2009. Contradicting Maternity: HIV-Positive Motherhood in South Africa. Witwatersrand University Press, Johannesburg.

Mantell, J.E., Smit, J.A., Stein, Z.A., 2009. The right to choose parenthood among HIV-infected women and men. J. Public Health Policy 30, 367–378.

Myer, L., Morroni, C., Cooper, D., 2006. Community attitudes towards sexual activity and childbearing by HIV-positive people in South Africa. AIDS Care 18, 772–776.

Myer, L., Morroni, C., Rebe, K., 2007. Prevalence and determinants of fertility intentions of HIV-infected women and men receiving antiretroviral therapy in South Africa. AIDS Patient Care STDS 21, 278–285.

National Department of Health, South African National AIDS Council, 2010. Clinical Guidelines: Prevention of mother to child transmission. Department of Health, Pretoria.

Nattabi, B., Jianghong, L., Thompson, S.C., Garimoi Orach, Earnest, J., 2009. A systematic review of factors influencing fer-tility desires and intentions among people living with HIV/AIDS: implications for policy and service delivery. AIDS Behav. 13, 949–968.

Nebie, Y., Meda, N., Leroy, V., Mandelbrot, L., Yaro, S., Sombié, I., Cartoux, M., Tiendrébeogo, S., Dao, B., Ouangré, A., Nacro, B., Fao, P., Ky-Zerbo, O., Van de Perre, P., Dabis, F., 2001. Sexual and reproductive life of women informed of their HIV seropositivity: a prospective cohort study in Burkina Faso. J. Acquir. Immune Defic. Syndr. 28, 367–372.

Neuman, W.L., 1994. Social Research Methods, Qualitative and Quantitative Approaches, second ed. Allyn and Bacon, Massachusetts.

Nulty, M., Edwards, D., 2005. The experiences and needs of HIV/AIDS counsellors at a South African hospital. J. Psychol. Africa 15, 1–10.

Oladapo, O.T., Daniel, O.J., Odusoga, O.L., Ayoola-Sotubo, O., 2005. Fertility desires and intentions of HIV-positive patients at a suburban specialist centre. J. Natl Med. Assoc. 97, 1672–1681.

Osman, S., 2011. Women's reproductive health in South Africa – a paradox. <http://www.ngopulse.org/blogs/women-s-reproductive -health-south-africa-paradox>.

Paiva, V., Fillipe, E.V., Santos, N., Lima, T.N., Segurado, A., 2003. The right to love: the desire for parenthood among men living with HIV. Reprod. Health Matters 11, 91–100.

Peltzer, K., Chao, L.W., Dana, P., 2009. Family planning among HIV-positive and negative prevention of mother to child transmission (PMTCT) clients in a resource poor setting in South Africa. AIDS Behav. 13, 973–979.

Phaweni, K., Peltzer, K., Mlambo, G., Phaswana-Mafuya, N., 2010. Factors influencing pregnancy desires among HIV-positive women in Gert Sibande district in Mpumalanga, South Africa. Gender Behav. 8, 2960–2974.

Sarnquist, C., Rahangdale, L., Maldonado, Y., 2013. Reproductive health and family planning needs among HIV-infected women in Sub-Saharan Africa. Curr. HIV Res. 11, 160–168.

Semprini, A.E., Hollander, L., 2007. Fertility management in couples with HIV: Semen washing as a risk-reduction method for African HIV-discordant couples? In: Kruger, T.F., Van der Spuy, Z., Kempers, R.D. (Eds.), Advances in Fertility Studies and Reproductive Medicine. Juta, Cape Town, pp. 420–430.

Shisana, O., Rehle, T., Simbayi, L., Zuma, K., Jooste, S., Zungu, N., Labadarios, D., Onoya, D., Davids, A., Ramlagan, S., Van Zyl, J., Mbelle, N., Wabiri, N., 2014. South African National HIV Prevalence, Incidence and Behaviour Survey, 2012. HRSC Press, Cape Town.

Smith, D.J., Mbakwem, B.C., 2010. Antiretroviral therapy and reproductive life projects: mitigating the stigma of AIDS in Nigeria. Soc. Sci. Med. 71, 345–352.

Strauss, A., Corbin, J., 1990. Basics of Qualitative Research, Techniques and Procedures for Developing Grounded Theory. Sage, London.

Tanser, F., Bärnighausen, T., Grapsa, E., Zaidi, J., Newell, M.L., 2013. High coverage of ART associated with decline in risk of HIV acquisition in rural KwaZulu-Natal, South Africa. Science 339, 966–971.

Taylor, T.N., Mantell, J.E., Nywagi, N., Cishe, N., Cooper, D., 2013. "He lacks his fatherhood": safer conception technologies and the biological imperative for fatherhood among recently-diagnosed Xhosa-speaking men living with HIV in South Africa. Cult. Health Sex. 15, 1101–1114.

United Nations Children's Fund, 2013. Towards and AIDS-free generation – children and AIDS: Sixth stocktaking report. UNICEF, New York.

United Nations Population Fund, 2012. Preventing HIV and unintended pregnancies: Strategic framework 2011–2015 – in support of the global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive. UNAIDS, New York.

UNAIDS, 2013. Joint United Nations Programme on HIV/AIDS (UNAIDS) Global report: UNAIDS report on the global AIDS epidemic. UNAIDS, Geneva.

Van Dyk, A., 2012. HIV/AIDS Care and Counselling, a Multidisciplinary Approach, fifth ed. Pearson Education, Cape Town.

Vernazza, P.L., Hollander, L., Semprini, A.E., Anderson, D.J., Duerr, A., 2006. HIV discordant couples and parenthood: how are we dealing with the risk of transmission? AIDS 20, 635–636.

World Health Organization, 2012. Programmatic update: Antiretroviral treatment as prevention (TASP) of HIV and TB. WHO, Geneva.

Declaration: The authors report no financial or commercial conflicts of interest.