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"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

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Abstract

This paper explores notions of fatherhood and their linkages to fertility desires and intentions among a treatment-naïve cohort of Xhosa-speaking male key informants living with HIV aged 20-53 in Cape Town, South Africa. Analysis is based on an initial 27 and 20 follow up interviews with men who were part of a study that assessed the acceptability of safer conception and alternative parenting strategies among men and women newly diagnosed with HIV to inform an intervention. Grounded theory analysis revealed themes related to the cultural imperative of biologically-connected fatherhood. Certain safer conception strategies aimed at minimising the risk of HIV transmission were perceived as threats to paternity. These findings suggest that understanding of social and cultural beliefs related to notions of paternity and fatherhood may inform the implementation of acceptable safer conception options for HIV-positive men and their infected and uninfected female partners in a high HIV prevalence, low-resource setting.

Keywords

safer conception technologies; HIV prevention; fatherhood; paternity; South Africa

Introduction

Addressing the sexual and reproductive health needs of people living with HIV is an emerging concern in secondary HIV prevention, especially in sub-Saharan Africa with generalised epidemics and large numbers of reproductive age-women living with HIV. The increased availability of antiretroviral therapy (ART) has begun to normalise the lives of people living with HIV, allowing many to pursue important life goals such as getting married and having children (Myer, Morroni, and Rebe 2007; Maier et al. 2009; Homsy et al. 2009; Myer et al. 2010; Ezekiel et al. 2012). People living with HIV are entitled, just like

their HIV-negative counterparts, to the right to choose whether or not to reproduce and to have access to information and counselling services about contraception, termination of pregnancy, and safer conception (London, Orner and Myer 2007).

Issues of childbearing and safer conception with HIV have primarily centred on women, but continue to be side-lined in public health policies and practice for HIV-positive men. The limited studies of fertility intentions among HIV-positive men indicate they also want to have children (Paiva et al. 2003; Sherr and Barry 2004; Cooper et al. 2007, 2009; Datta 2007). Many providers, however, are reluctant to discuss reproductive desires with men as they perceive men to be disinterested in these issues (Harries et al. 2007; Natrass 2008). Consequently, little is known about HIV-positive men's attitudes about safer conception, particularly in the sub-Saharan African context of high HIV prevalence and high value placed upon having children.

A number of options to reduce the risk of HIV transmission are available for people who wish to conceive. These include “high-technologies,” such as sperm washing, insemination with donor sperm using intrauterine insemination (IUI), in vitro fertilisation (IVF) or intracytoplasmic sperm injection (ICSI). Newer options with demonstrated efficacy, such as PrEP for HIV- persons (Grant et al. 2010) and Treatment as Prevention for HIV-positive partners (Cohen et al. 2011) have been added to the safer conception options. Manual insemination at home and timed unprotected vaginal intercourse are “low-technology” safer conception strategies that could be promoted in resource-limited venues (Matthews et al. 2013; Chadwick et al. 2011), but limited clinical knowledge of these strategies by health care providers mitigates against their use.

In sub-Saharan Africa, where HIV transmission is driven by deeply-rooted gender inequalities (Jewkes and Morrell 2010), there have been increasing demands to engage men in HIV prevention efforts (Barker and Ricardo 2005; Mane and Aggleton 2001) and understand the linkages between notions of masculinity and HIV (Hunter 2004, 2005; Dworkin, Fullilove, and Peacock 2009; Harrison et al. 2006; Kaufman et al. 2008; Brown, Sorrell and Raffaelli 2005; Wyrod 2011). A number of researchers have speculated that men's desires to demonstrate their fertility and masculinity may influence sexual risk behaviours (Barker 2001; Dageid, Govender and Gordon 2012; Lynch, Brouard and Visser 2010).

As an ideological construct, masculinity encompasses a set of cultural ideals that define appropriate roles, values, and expectations for men within particular social contexts. Hegemonic notions of masculinity and fatherhood often intersect with the belief that men need to display their sexual prowess; siring a child thus becomes emblematic of male virility and manliness, irrespective of a man's ability to provide for his family (Connell 1995). While there has been an increased recognition of the mutability and multiplicities of masculinity (Doyal, Anderson and Paparini 2009; Luyt 2003, 2005; Odimegwu, Pallikadavath and Adedini 2013), this awareness has not been extended to understanding variations in fatherhood. Perceptions of masculinity that affect individual behaviour and risk of HIV infection may affect how HIV-positive men view their options on fatherhood.

Knowledge of the relationship between fatherhood and HIV infection among men is an understudied area in gender studies. All societies have notions of fatherhood, with varying degrees of definition and importance. Fatherhood, as a construct, embraces a broader range of socially constructed, negotiated and enacted gendered identities and parenting functions developed and sustained by societal and cultural systems of meaning within given historical contexts. Shared notions of what it means to be a man with children are not monolithic or immutable; they change over time and vary from one group or setting to another. In the past, cross-cultural explorations of fatherhood have explored universalisms and contextual specificities (Lamb 1987), often engendering clichés of fatherhood as only “providers and disciplinarians or absent, irresponsible fathers” (Datta 2007, 97). Current studies on fatherhood have pursued more “complex and nuanced understandings” of fathering and fatherhood (Miller and Maiter 2008, 279; Chopra 2001; Fox 1999; Townsend 1997, 2001; Merli 2011; Kirkman, Rosenthal, and Feldman 2001), challenging racial stereotypes of fatherhood, specifically among Caribbean, Latino/Chicano, and African-American men (Marsiglio 1993; Campos 2008; Dienhart 2005; Toth 1999).

Fatherhood in South Africa, as elsewhere, is considered an irrevocable social status attained by having a child (Lesejane 2006). However, beyond the procreative act, fatherhood also includes an array of childrearing, activities, duties, and responsibilities that fathers are expected to perform. Individuals and groups participate in and enact fatherhood based on both normative beliefs and subjective interpretations of what it means to be a father. Colonialism and Apartheid in South Africa and the migrant labour system severely disrupted existing family formation and created a situation of fluidity where many men (and later women) migrated to mines and cities and were separated from their families for extended periods (Conway 2008; Ramphele and Richter 2006; Cheng and Siankam 2009). Added to this change, black men's lack of power in a racially divided society may have further promoted men's dominance in intimate relationships and men's need to prove biological fatherhood. Studies on fatherhood in the post-Apartheid South Africa suggest that rapid changes in family dynamics have expanded the role of fatherhood to include non-biological fathers (Walker 2005).

Using data collected in the formative phase of a structural intervention to integrate sexual and reproductive health services into HIV clinical care in Cape Town, we explore attitudes about fertility and safer conception among a cohort of HIV-positive Xhosa-speaking men and discuss issues of masculinity and fatherhood that spontaneously emerged from the data. This study builds upon research on masculine identity (Connell 1995, 1998), particularly in southern Africa (Clatterbaugh 1998), and cross-cultural studies on the importance of fatherhood and procreation (Foster 2004; Merli 2011). Although there is limited access to certain safer conception strategies in South Africa, an understanding of normative gender beliefs about paternity may provide valuable insights for implementing acceptable safer conception options for HIV-positive men and their serodiscordant or seroconcordant female partners.

Methods

Participants

Following approval from the Health Sciences Faculty Human Research Ethics Committee at the University of Cape Town and the Institutional Review Board at the New York State Psychiatric Institute and Columbia University, we conducted semi-structured individual interviews with 57 HIV-positive, Xhosa-speaking clients (30 women and 27 men). Analysis in this paper, however, is limited to baseline interviews conducted with 27 men between September and December 2007, and 20 follow-up interviews between July and December 2008. Participants were recruited from four public sector heath centres that have HIV Wellness Clinics. These clinics provide affordable HIV care services, including CD4 monitoring and sexual and reproductive health services such as family planning, pregnancy testing, antenatal and post-natal health care, birth and labour services, termination of pregnancy counselling, and breast cancer and cervical cancer screening.

We recruited participants who had engaged with the HIV care system but had not initiated ART. These included men who either did not have a CD4 count of below 200 mm^3 and were not yet displaying symptoms of Stage 3 or 4 AIDS-related illnesses and were therefore not yet eligible for ART. We focused on newly-diagnosed treatment-naïve individuals since pilot data from two of the clinics indicated that up to 50% of the individuals who enter the HIV care system wanted to have (more) children. Inclusion criteria were: (1) being HIV-positive; (2) being 18 years or older; (3) having the cognitive ability to consent and participate unencumbered (e.g. free from alcohol or drugs) in an interview; and (4) willingness to have the interview audio-recorded. Having children or not was not a criterion for recruitment.

Procedures

In each clinic, study staff systematically approached every third client seated in the waiting area to participate in the study, explained study objectives and procedures, and initiated the informed consent process with interested clients. The second interview was conducted as follow-up to determine how their fertility intentions change over time as they lived with HIV. We aimed to recruit 20 men and 20 women but over recruited participants to factor in potential attrition. Interviews were scheduled on the day of or close to the day of recruitment. Interviews were conducted in a private room in the clinic in either English or *isiXhosa*, depending upon a participant's preference. Key issues explored in the interviews included: the impact of HIV on their lives' disclosure of HIV status; changes in sexual functioning; desire for parenthood; reproductive decision-making; views on biomedical interventions to support safer conception; alternatives parenting options; and opinions about integrating components of reproductive health into routine HIV care. The interviewers also provided detail information to all participants unfamiliar with approaches to safer conception.

Interviewers (1 female and 1 male) had graduate degrees in the social or health sciences, and experience in qualitative interviewing. All interviews with the male participants were

conducted by a male interviewer. All participants were paid the equivalent of $5.50 for the initial interview and $6.50 for the second interview.

Analysis

Analysis in this paper is limited to men's views on biomedical interventions to support safer conception and alternative forms or parenting. We first conducted a categorical analysis of the qualitative data based on the interview guide questions. Following review of *a priori* topics, we used grounded theory to explore emergent concepts, themes and patterns derived from the data (Strauss and Corbin 1998).

Four independent investigators (two from South Africa and two from the US) generated a list of broad thematic codes and more specific sub-categories based on a subset of four transcripts. Two researchers independently coded five additional transcripts and all codes were discussed, defined and redefined to ensure common interpretation. The coding scheme was finalised at the point of saturation, or when additional transcripts did not elicit new themes. The two researchers then coded all transcripts based on the final codebook. Codes were entered into NVivo 7 for systematic data management and the subsequent analysis of the data was conducted by all authors.

Results

Sample characteristics and fertility intentions

Table 1 reports selected sociodemographic and clinical variables used to characterise the sample. The mean age for the men in this study was 37 years old (SD: 8.8). The mean number of years of education was 9 years (SD: 2.7), and 41% were unemployed. The majority of the men reported being in good health, with a mean CD4 count of 384, which was higher than the threshold for recommended ART initiation in South Africa. The majority of the men (78%) had a sexual partner at the time of the interview and 58% reported their partner was also HIV-positive. The mean number of children for these men was 2.4 (SD: 1.8) and 58% wanted to have more children. Those men who did not want to have more children gave the following reasons: they had already achieved their desired family size; they believed that having children would harm their health; they feared that they might infect their child, partner, or leave behind orphans, or had general concerns around having unprotected sex because they were HIV-positive.

Gender beliefs about having children

Analysis of the interviews suggest that most of the men in this study subscribe to normative gender roles and beliefs about the salience of procreation, paternal obligations and responsibilities, and views of children as a source of meaning, happiness, and fulfilment. Findings from the interviews also suggest that fatherhood is inextricably linked to notions of masculinity and social identity, especially as a married man. The status of being a married man encompasses fulfilling a range of expected social practices, such as providing housing, food and other resources to one's offspring and partner/wife. Having children not only provides these men a sense of accomplishment and pride, it is also an outward sign of their

virility, enhancing social status and recognition and confirming the dominant norms of masculinity in their society.

For one man, to be married and have children established personal prestige and respect: “It is important to me because I am a married person, and then I … want my own home and it must stand out, so I must have children and my name must be known” (Thembani: 47 year-old, married, and 2 children). For this man, having children also invokes the notion of creating a home wherein children are considered assets and personal sources of pride and achievement. Other participants also noted that for a ‘home’ to be complete, it should have children. One man stated:

> “…it won't help to just say I need children; I [also] need [to have a] homestead – [to] have my own house. A home is not a home without children; there must be children at the house!” (Dumisani: 26 year-old, girlfriend, and no children).

The consequence of not having children for many participants could reduce a man's social status, making him less of ‘a man.’ Metaphors about ‘castration,’ as a diminished form of manliness were common in the interviews. One participant stated: “…if you don't have a child, it is said that you are just a castrated animal – you won't be called for anything [given respect]” (Sakhiwo: 44 year-old, casual partners, and 2 children). Another participant added:

> “…if he [a man] dies in his home without having produced children, he will have that curse of ‘He took the bull’ (i.e. having a woman who cannot bear children) [and] … those who are left [have] …a castrated pig in the house (i.e., a man unable to father children)” (Thembani: 47 year-old, married, and 2 children).

Castration, or the removal of the male reproductive organs, destroys procreative function and is an irrevocable form of diminished masculinity. In the first quote, the perception conveyed is that without children, masculinity is weakened, social status undermined; leading to a loss of respect from peers or neighbours. The reference to a ‘curse’ in the second quote is not literal but rather indicates that a man may be the target of derogatory comments about his ‘inability’ to have children, which is socially and culturally stigmatising.

Finally, fatherhood for HIV-positive Xhosa-speaking men invokes the urgent desire to ‘leave something behind’ so that one can be remembered; ensuring that one's legacy or name is continued by descendants. For one man, the unease about not having children was connected to responsibility as men to propagate their family line:

> “My thought [concern] is that that [my] home [i.e. the homestead] might disappear, and I might die without having had children [and then] my father's home might disappear without having born fruit” (Thembani: 47 years old, married, and 2 children).

For another man, the desire to leave something behind also was connected to the notion of being a man: “You are a man, you see. If you do not have children, you are not leaving anything on this earth when you eventually die” (Xolani: 37 year-old, non-live-in girlfriend, 3 children).

For some men, a personal artefact one can leave behind is your surname, as a marker of family history and continuity. One man said: “You have that thing of leaving someone behind on earth… and to leave my name so that it does not come to an end” (Mzukisi: 31 year-old, non-live-in girlfriend, and one child). Another added that: “It's important to have children in order for your name not to come to an end on earth – you want children, you work for your progeny” (Sakhiwo: 44 year-old, casual partners, and 2 children). According to these men, leaving behind some material or social inheritance provides a sense of accomplishment.

We found in the second interview that a number of men had reassessed their future reproductive goals. One man stated:

> “I used to think I couldn't have them but now yes, I can have a child if I want one… For example, to sterilise the sperms (referring to sperm washing) and put them in the woman. Another example is that I can always adopt” (Nyaniso: 26 year-old, casual partners and no children).

Another man added:

> “I found out that you can have them [through] different ways… that you can have your own child, through adoption…I wanted to have one with her but now, seeing we are in this condition (i.e. HIV-positive), we can't, we should rather take from those that are already around, and adopt” (Luzuko: 48 year-old, live-in girlfriend, and one child).

The biological imperative for fatherhood

From these interviews we assessed participants' views on certain types of safer conception strategies and alternative parenting strategies in the context of strong desires to have children. These included sperm washing, self, partner-or provider-assisted insemination of an HIV-positive female partner with an uninfected male partner's sperm, sperm donation and timed intercourse; and alternative parenting strategies such as taking care of a relative's child, formal adoption or fostering a child. The biological imperative for fatherhood, as a theme emerged from participants' responses. The majority of participants expressed favourable attitudes toward sperm washing, provider insemination, and self-insemination. However, their lack of familiarity with the procedures and safeguards against errors, especially when first interviewed, led most to express concerns about HIV transmission and whether their biological paternity would be compromised. For example, almost all of the men stated they would not favour timed intercourse for fear of transmitting the virus. These views may be due to a desire to be perceived as being a responsible HIV-positive man who does not engage in unprotected sex.

The most common concern, however, was that the sperm used in these procedures would belong to another man. One participant described this fear as something ‘black’ which is a metaphor emphasising the child's otherness:

> “…and she can be given sperm that is not mine, from another man and then she can suddenly be carrying something ‘very black’” (meaning, something unknown)” (Zukisani: 29 year-old, casual partners, and 1 child).

Given this concern, self-insemination by the male or the female partner would be the most acceptable procedure to guarantees that the sperm used in the procedures was their own. To ensure they had control over the process, many also stated the need to actually see their semen being used in the procedure.

Not surprisingly, given the preference that insemination should only use their sperm, nearly all of the men in this study were against the use of donor sperm. One man stated:

> "There's the difficult thing because if it is someone else's, I can't go along with it… No, I could not agree to that!" (Sakhiwo: 44 year-old, casual partners, and 2 children). Another man added: "No! Taken from another man and inserted into my partner! No, I couldn't accept that! No, she will be in a predicament now, carrying someone else's child – no!" (Fundani: 29 year-old, no partners, and no children).

For these men, sperm donation was an unacceptable safer conception method because it fundamentally minimised their need to have a biological connection to their child or the potential discord that using another man's sperm would create with their partners.

In fact, several men compared the use of donor sperm to formal adoption. One man, who wanted to have children, asserted that the results are analogous:

> "No, taken from another man and inserted into my partner? No, I couldn't accept that! Why don't I go and adopt? It's a similar thing" (Fundani: 29 year-old, no partners, and no children).

Another man affirmed that the problem with sperm donation or adoption is that it undermines his ability to claim a biological connection with the child: "It's now like you are adopting a child who is not yours… because it's not your blood, you are not the biological father of that child" (Thembani: 47 year-old, married, and 2 children). However, a third man stated he would rather pursue adoption than use sperm donation: "No, I couldn't feel right at all…because it is someone else's – not mine. In such a situation I would rather go for adoption" (Luzuko: 48 year-old, live-in girlfriend, and one child).

With regard to formal adoption, only half of the men favoured it as an acceptable alternative parenting option. Similarly, most participants said that they would not foster a child because they were not family or they were not theirs. One man stated that: "I do not accept to feed a child who is not mine; I want to look after my own [family's] child. (Luzuko: 48 year-old, live-in girlfriend, and 1 child). Another man added: "rather I stay childless than raising a child who is not yours" (Thembani: 47 year-old, married, and 2 children). For these men, the problem with adoption or child fostering is the belief that without a family and/or biological connection there is a greater likelihood of having childrearing conflicts or problems. For one man, 'trouble' would be inevitable, despite efforts to integrate a non-biological child into his family:

> "…I can't because of this issue of it [child] still going to grow up and give us trouble…[because] …it is going to know that it is not exactly mine. And [s/he] must tell [him/herself] that I am not the father" (Sakhiwo: 44 year-old, casual partners, and 2 children).

For some men, the risk of having potential problems is not worth the risk, as reflected in the words of one participant:

> "I do not accept that!…I cannot bring trouble into my life while I am already in trouble (due to HIV). A child that you would not even know…what is his family name?" (Luzuko: 48 year-old, live-in girlfriend, and 1 child).

Despite the issues with adoption and child fostering, the majority of the men stated that they would take care of a relative's child as an alternative to having their own child. One man described his willingness to take care of a relative's child because they would be familiar with the child's background and customs: "It is better if it is a child from the family… [because]…this thing that I know that, it is of my blood" (Khwezi: 44 year-old, married, 5 children). Another man added: "I can keep a relative's child and bring it up… I would prefer to keep that one because I would know that it (the child) was from here, [and] no matter what it does, he will tell himself that he is from this family" (Sakhiwo: 44 year-old, single, 2 children).

Some participants added that taking care of a relative's child could have certain benefits. One man stated: "I would care a lot for my relative's child because I know that next time that child could be the one who would help me" (Bhutana: 36 year-old, girlfriend, 3 children). However, some men acknowledged that these expectations of reciprocity might not materialise because they are still not the biological father:

> "I would love to have my own child [and] not to rear up a relative's child because sometimes when that child grows bigger, the child can turn his back on you because of the attitude that you are not the biological parents" (Fundani: 29 year-old, casual partners, no children).

Discussion

Results from this study show that some HIV-positive Xhosa-speaking men want to have (more) children and that intrinsic notions of masculinity and normative gender-role expectations informed fertility intentions. These findings are consistent with findings of other South African research on fertility intentions, especially when there is increased accessibility to treatment (Cooper et al. 2007, 2009; Paiva et al. 2003; Sherr and Barry 2004). The study findings reported here illustrate that non-biological approaches to safer conception or alternatives to parenting are not favoured by this population due to the implicit imperative that men want a biological connection with their children.

At the heart of what drives HIV-positive men's pursuit of having biological children are notions of masculinity and what it means to be a man. The desire to have more children was expressed as metaphors, such as 'one's name,' 'home,' 'blood,' and 'born fruit.' Having children is a powerful external symbol of virility and accomplishment, which enhances personal prestige and respect as a real man in the society. For married men, having children is both an obligation to your spouse/partner and family but also a responsibility to create a 'home,' which is not just a dwelling but a metaphor for 'family' that is comprised of a father, mother and their children. Without children, this social space may be incomplete. To

not have children, according to the men in this study is stigmatising, as is illustrated by metaphors of diminished manliness.

According to the men in this study, fatherhood – as a social identity – is almost exclusively attained through biological paternity. Paternity creates familial ties that extend one's identity to a common genealogical origin. In South Africa, and many other developed and developing societies, kinship is established through the patriline, and is a source of cultural pride (especially for men) that provides all members of the family with a sense of belonging. Who you are, as a social being, is determined and defined by your ability to locate yourself within a social network.

The desire to ‘leave one's name behind’ and contribute to the growth of a family lineage is found in all societies; however, for HIV-positive men, this desire also may intersect with the “fear of personal extinction” (Conte, Weiner and Plutchik 1982, 775). Prior to the advent of ART, the desire to have children for many people living with HIV in South Africa was initially thought to be unattainable; however, since the rollout of treatment, many now embrace the prospects of fulfilling important life projects, such as marriage or having children. In fact, many people living with HIV continue to feel an urgent need to leave behind evidence of one's existence through progeny and personal achievement.

The desire not to raise a ‘cultural stranger’ through formal adoption and child fostering echoes the importance of a biological connection in fatherhood. For some men, the concern that bringing an ‘outsider’ into their home will disrupt or threaten family cohesion may be a difficult obstacle to circumvent in the promotion of adoption or fostering of children. Alternatively, caring for a relative's child may be a satisfactory alternative to having their own child because this extended family care arrangement for children has been a common practice in South Africa due to historic patterns of migration, urban economic constraints and orphaned children from HIV or other causes (Bray 2003).

Specific safer conception methods or parenting alternatives that undermine, or neglect, the importance of a biological link to paternity may be particularly unacceptable within this context. Our findings strongly suggest that sperm donation may not be well received in this setting. According to Rose (2004, 1), sperm donation “fractures the notion of paternity and identity through the abrogation of expected rights and obligations that a father would have for his child.” Currently, sperm donation is not widely accessible in South Africa's public sector health system and is unlikely to be so in the near future. While data on the acceptability of sperm donation in Africa are limited, South African Xhosa-speaking women do get inseminated with donor sperm in infertility services unrelated to their HIV status. Views on sperm donation may change both as PLWH become more familiar with this method and as they weigh their choices in terms of desires for parenthood.

The study has some limitations. First, this study is limited by the small sample, common in qualitative research, which explores a few key issues in-depth and is not aimed at generalising to a broader population. Fatherhood was not the focus of this study nor was it an eligibility criterion. All but two participants were fathers and issues pertaining to perceptions of fatherhood responsibilities were not probed. Views of diminished manliness

among fathers may differ from those who are not fathers and those men who have partners that desire (more) children.

Since study participants were largely unaware of the possibility of safer conception strategies, it is difficult to assess whether information provided by the interviewer altered their intentions. The impact of access to ART and a belief that treatment will change their lives ('ART optimism') (Kaida et al. 2009) also needs to be studied as this may affect attitudes about fatherhood. The men in this study were newly diagnosed and their attitudes about childbearing might differ as they live longer with their disease, engage in treatment, and achieve an undetectable viral load. Finally, participants were recruited exclusively from urban clinics, so the applicability of our findings to non-urban and non-clinic populations is unknown. The views of health care providers about safer conception for people living with HIV was explored as part of this study and will be reported elsewhere, as providers' attitudes may be key facilitators or barriers in providing reproductive services for HIV-positive men.

Findings from this study, albeit limited to only HIV-positive Xhosa-speaking men in the Western Cape, strongly suggest that safer conception techniques and alternative parenting strategies to help HIV-positive men fulfil their fertility desires must take into account issues of paternity and the importance of biological fatherhood. If high-technological safer conception methods were to become more widely available and low-tech methods were promoted in public-sector health services, they would need to consider the importance of preserving men's paternity. HIV+ men were keen to learn more about options for safer conception and childbearing in the context of HIV. In fact, as men became more familiar with the different safer conception strategies through the interviewing process, they became more open to some methods and hence might change their views with sufficient information over time.

HIV care services in South Africa should focus on the impact that men's fertility desires and contraceptive practices have on their (and their partners') decisions about parenthood and incorporate South Africa's safer conception consensus guidelines (Bekker et al. 2011) into clinical practice. Finally, contraception should be routinely discussed with HIV-positive men in conjunction with their partners in a non-judgmental way to assist them in making informed decisions about biological parenting, reducing the risk of pregnancy, and minimising the risk of HIV transmission to negative partners.

Conclusion

Dominant expressions of masculinity can affect individual HIV risk behaviours as well as how men living with HIV view their options on fatherhood. Fatherhood is more than just a biological phenomenon of fathering a child – it is linked to a gendered social identity with particular duties and responsibilities. Fatherhood, as an essential aspect of the life for many men, has been largely ignored as a component of men's health, especially its effect of men's physical and mental well-being (Garfield, Clark-Kauffman and Davis 2006; Courtenay 2000). Fatherhood should be conceptualised not as a binary measure, but rather more richly to include the role of history, and the local context of culture and society, gender identities, and masculinity. Under a framework of reproductive social justice, HIV prevention efforts

should endeavour to meet the sexual and reproductive needs of men living with HIV and their partners. Explication of these historical, social and culture-specific concerns in how men living with HIV pursue fatherhood may be a critical step in assuring long-term success in secondary HIV prevention in South Africa. Mixed-method studies could be pursued to test whether there are statistically significant associations of fertility intentions and biological paternity in larger, more diverse HIV-positive populations. Greater understanding of how fatherhood affects the health of men living with HIV will enable health care providers to better meet their clients' reproductive health needs with comprehensive, integrated research and service delivery.

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References

Barker G. Gender equitable boys in a gender inequitable world: Reflections from a qualitative research and program development with young men in Rio de Janeiro. Brazil Sexual and Relationship Therapy. 2001; 15(3):263–282.

Barker, G.; Ricardo, C. Social Development Papers, Conflict Prevention & Reconstruction Paper No 26. Washington, DC: The World Bank; 2005. Men and the construction of masculinity in sub-Saharan Africa: Implications for HIV/AIDS, conflict, and violence.

Bekker LG, Black V, Myer L, Rees H, Cooper D, Mall S, Mnyami C, et al. Guidelines on safer conception in fertile HIV-infected individuals and couples. The Southern African Journal of HIV Medicine. 2011; 12(2):30–44.

Bray, R. CSSR Working Paper, No 29 Centre for Social Science Research. Cape Town: University of Cape Town; 2003. Predicting the social consequences of orphanhood in South Africa.

Brown J, Sorrell J, Raffaelli M. An exploratory study of constructions of masculinity and HIV/AIDS in Namibia, Southern Africa. Culture, Health & Sexuality. 2005; 7(6):585–598.

Campos R. Considerations for studying father involvement in early childhood among Latino families. Hispanic Journal of Behavioral Sciences. 2008; 30:133–160.

Chadwick R, Mantell J, Moodley J, Harries J, Zweigenthal V, Cooper D. A review of safer conception interventions: Implications for resource-constrained settings. Topics in Antiviral Medicine. 2011; 19(4):148–155. [PubMed: 22156217]

Cheng ST, Siankam B. The impacts of the HIV/AIDS pandemic and socioeconomic development on the living arrangements of older persons in sub-Saharan Africa: A country level analysis. Am Journal of Community Psychology. 2009; 44(1-2):136–147.

Chopra R. Retrieving the father: Gender studies, “father love and the discourse of mothering. Women's Studies International Forum. 2001; 24:445–455.

Clatterbaugh K. What is problematic about masculinities? Men and Masculinities. 1998; 7(1):24–45.

Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N, Hakim JG, et al. Prevention of HIV-1 infection with early antiretroviral therapy. New England Journal of Medicine. 2011; 365:493–505. [PubMed: 21767103]

Connell, RW. Masculinities. Cambridge, MA: Polity; 1995.

Connell RW. Masculinities and globalization. Men and Masculinities. 1998; 1(1):3–23.

Conte HR, Weiner MB, Plutchik R. Measuring death anxiety: Conceptual, psychometric, and factor-analytic aspects. Journal of Personality and Social Psychology. 1982; 43(4):775–785. [PubMed: 7175677]

Conway D. The masculine state in crisis: State response to war resistance in apartheid South Africa. Men and Masculinities. 2008; 10:422–439.

Cooper D, Harries J, Myer L, Orner P, Bracken H, Zweigenthal V. “Life is still going on”: Reproductive intentions among HIV-positive women and men in South Africa. Soc Sci Med. 2007; 65(2):274–283. [PubMed: 17451852]

Cooper D, Moodley J, Zweigenthal G, Bekker LG, Shah I, Myer L. Fertility intentions and reproductive health care needs of people living with HIV in Cape Town, South Africa: Implications for integrating reproductive health and HIV care services. AIDS and Behavior. 2009; 13(Suppl 1):38–46. [PubMed: 19343492]

Courtenay W. Constructions of masculinity and their influence on men's well being: A theory of gender and health. Social Science & Medicine. 2000; 50:1385–1401. [PubMed: 10741575]

Dageid W, Govender K, Gordon SF. Masculinity and HIV disclosure among heterosexual South African men: Implications for HIV/AIDS intervention. Culture, Health & Sexuality. 2012; 14(8): 925–940.

Datta K. “In the eyes of a child, a father is everything”: Changing constructions of fatherhood in urban Botswana. Women's Studies International Forum. 2007; 30:97–113.

Dienhart A. African American fathers: Myths and realities about their involvement with their firstborn children. Journal of Family Issues. 2005; 26:975–1001.

Doyal L, Anderson J, Paparini S. “You are not yourself’: Exploring masculinities among heterosexual African men living with HIV in London. Social Science & Medicine. 2009; 68(10):1901–1907. [PubMed: 19299059]

Dworkin SL, Fullilove RE, Peacock D. Are HIV/AIDS prevention interventions for heterosexually active men in the United States gender-specific? American Journal of Public Health. 2009; 99(6): 981–984. [PubMed: 19372506]

Ezekiel MJ, Leyna GH, Kakoko DC, Mmbaga EJ. Attitudes towards and perceptions of reproductive health needs of persons living with HIV/AIDS in rural Kilimanjaro, Tanzania. Culture, Health & Sexuality. 2012; 14(10):1153–1165.

Foster J. Fatherhood and the meaning of children: An ethnographic study among Puerto Rican partners of adolescent mothers. Journal of Midwifery & Women's Health. 2004; 49(2):118–125.

Fox DJ. Masculinity and fatherhood re-examined: An ethnographic account of the contradictions of manhood in a rural Jamaican town. Men and Masculinities. 1999; 2(1):66–86.

Garfield CF, Clark-Kauffman E, Davis MM. Fatherhood as a component of men's health. JAMA. 2006; 296(19):2365–2368. [PubMed: 17105800]

Grant RM, Lama JR, Anderson PL, McMahan V, Liu AY, Vargas L, Goicochea P, et al. Preexposure chemoprophylaxis for HIV prevention in men who have sex with men. New England Journal of Medicine. 2010; 363(27):2587–2599. [PubMed: 21091279]

Harries JD, Myer L, Bracken H, Zweigenthal V, Orner P. Policy makers and health care providers' perspectives on reproductive decision-making amongst HIV-infected individuals in South Africa. Biomed Central Public Health. 2007; 7:282. [PubMed: 17919335]

Harrison A, O'Sullivan LF, Hoffman S, Dolezal C, Morrell R. Gender role and relationship norms among young adults in South Africa: Measuring the context of masculinity and HIV risk. Journal of Urban Health. 2006; 83(4):709–722. [PubMed: 16758334]

Homsy J, Bunnell R, Moore D, King R, Malamba S, Nakityo R, Glidden D, et al. Reproductive intentions and outcomes among women on antiretroviral therapy in rural Uganda: A prospective cohort study. PLoS One. 2009; 4(1):e4149. [PubMed: 19129911]

Hunter M. Masculinities, multiple-sexual-partners, and AIDS: The making and unmaking of Isoka in KwaZulu-Natal. Transformation. 2004; 54:123–153.

Hunter M. Cultural politics and masculinities: Multiple-partners in historical perspectives in KwaZulu-Natal. Culture, Health & Sexuality. 2005; 7(3):209–223.

Jewkes R, Morrell R. Gender and sexuality: Emerging perspectives from the heterosexual epidemic in South Africa and implications for HIV risk and prevention. Journal of the International AIDS

Society. 2010; 13:6. http://www.biomedcentral.com/content/pdf/1758-2652-13-6.pdf. [PubMed: 20181124]

Kaida AV, Lima D, Andia I, Kabakyenga J, Mbabazi P, Emenyonu N, Patterson TL, et al. The WHOMEN's scale (Women's HAART optimism monitoring and evaluation scale v.1) and the association with fertility intentions and sexual behaviours among HIV-positive women in Uganda. AIDS and Behavior. 2009; 13(Suppl 1):72–81. [PubMed: 19387819]

Kaufman MR, Shefer T, Crawford M, Simbayi LC, Kalichman SC. Gender attitudes, sexual power, HIV risk: A model for understanding HIV risk behavior of South African men. AIDS Care. 2008; 20(4):434–441. [PubMed: 18449820]

Kirkman M, Rosenthal DA, Feldman SS. Tensions between traditional masculinity and involved fatherhood through communication about sexuality with adolescents. Culture, Health & Sexuality. 2001; 3(4):391–411.

Lamb, M., editor. The father's role: Cross-cultural perspectives. Hillsdale, NJ: L. Erlbaum Associates; 1987.

Lesejane, D. Fatherhood from an African cultural perspective. In: Richter, L.; Morrell, R., editors. Baba: Men and fatherhood in South Africa. Cape Town: HSRC Press; 2006. p. 173-182.http://www.hsrcpress.ac.za/product.php?productid=2113

London L, Orner PJ, Myer L. 'Even if you're positive, you still have rights because you are a person': Human rights and the reproductive choice of HIV-positive persons. Developing World Bioethics. 2007; 8(1):11–22. [PubMed: 18302539]

Luyt R. The male attitude norms inventory-II: A measure of masculinity ideology in South Africa. Men and Masculinities. 2005; 8:208–229.

Luyt R. Rhetorical representations of masculinities in South Africa: Moving towards a material-discursive understanding of men. Journal of Community and Applied Social Psychology. 2003; 13:26–69.

Lynch I, Brouard PW, Visser MJ. Constructions of masculinity among a group of South African men living with HIV/AIDS: Reflections on resistance and change. Culture, Health & Sexuality. 2010; 12(1):15–27.

Maier M, Andia I, Emenyonu N, Guzman D, Kaida A, Pepper L, Hogg R, Bangsberg DR. Antiretroviral therapy is associated with increased fertility desire, but not pregnancy or live birth, among HIV-positive women in an early HIV treatment program in rural Uganda. AIDS & Behavior. 2009; 13(Suppl 1):S28–S37.

Mane P, Aggleton P. Gender and HIV/AIDS: What do men have to do with it? Current Sociology. 2001; 49(6):23–37.

Marsiglio W. Contemporary scholarship on fatherhood: Culture, identity and conduct. Journal of Family Issues. 1993; 14(4):484–509.

Matthews LT, Crankshaw T, Giddy J, Kaida A, Smit JA, Ware NC, Bangsberg DR. Reproductive decision-making and periconception practices among HIV-positive men and women attending HIV services in Durban, South Africa. AIDS & Behavior. 2013; 17(2):461–470. [PubMed: 22038045]

Merli C. Patrescence in Southern Thailand: Cosmological and social dimensions of fatherhood among the Malay-Muslims. Culture, Health & Sexuality. 2011; 13(2):S235–S248.

Miller W, Maiter S. Fatherhood and culture: Moving beyond stereotypical understandings. Journal of Ethnic and Cultural Diversity in Social Work. 2008; 17(3):279–300.

Myer L, Carter R, Katyal M, Toro P, El-Sadr W, Abrams E. Impact of antiretroviral therapy on incidence of pregnancy among HIV-infected women in sub-Saharan Africa: A cohort study. PLoS Med. 2010; 7:1–10.

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. [PubMed: 17461723]

Nattrass N. Gender and access to antiretroviral treatment in South Africa. Feminist Economics. 2008; 14(4):19–36.

Odimegwu C, Pallikadavath S, Adedini S. The cost of being a man: Social and health consequences of Igbo masculinity. Culture, Health & Sexuality. 2013; 15(2):219–234.

Paiva V, Filipe EV, Santos N, Lima TN, Segurado A. The right to love: The desire for parenthood among men living with HIV. Reproductive Health Matters. 2003; 11(22):91–100. [PubMed: 14708400]

Ramphele, M.; Richter, L. Migrancy, family dissolution and fatherhood. In: Richter, L.; Morrell, R., editors. Baba: Men and fatherhood in South Africa. Cape Town: HSRC Press; 2006. p. 73-81.http://www.hsrcpress.ac.za/product.php?productid=2113 [Accessed October 27, 2009]

Rose, J. Sperm donation: The mediation of kinship and identity issues for the offspring; 2nd National Conference on the Mental Health Aspects of Persons Affected by Family Separation; Thursday 14th - Friday 15th October 2004. Brisbane, Australia: The Park Centre for Mental Health; 2004. http://eprints.qut.edu.au/738/1/rose_sperm.PDF

Sherr L, Barry N. Fatherhood and HIV-positive heterosexual men. HIV Medicine. 2004; 5:258–263. [PubMed: 15236614]

Strauss, A.; Corbin, J. Basic qualitative research: Grounded theory, procedures and techniques. Newbury Park, CA: Sage; 1998.

Toth JF Jr. Ethnic and cultural diversity in fathers' involvement: A racial/ethnic comparison of African American, Hispanic, and White fathers. Youth & Society. 1999; 31:76–99.

Townsend N. Men, migration and households in Botswana: An exploration of connections over time and space. Journal of Southern African Studies. 1997; 23(3):405–420.

Townsend, N. Fatherhood and the mediating role of women. In: Brettell, CB.; Sargent, CF., editors. Gender in cross-cultural perspective. New Jersey: Prentice-Hall, Inc; 2001. p. 120-134.

Walker L. Men behaving differently: South African men since 1994. Culture, Health & Sexuality. 2005; 7(3):225–238.

Wyrod R. Masculinity and the persistence of AIDS stigma. Culture, Health & Sexuality. 2011; 13(4): 443–445.

Table 1
Sociodemographic characteristics of study participants

Characteristics	(N = 27)
Mean age (SD)	37 years (8.8)
Mean education (SD)	9.2 years (2.7)
% unemployed	41%
% had a main sexual partner	78%
% know partner is HIV+	58%
Mean time HIV+ (SD)	3.3 years (4.0)
Mean number of children	2.4 (1.8)
Desire to have (more) children	58%
Mean CD4	384 (208.7)
Self-reported health status	Good