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HIV + Men Need Reproductive Counseling Too: Assessing Childbearing Goals and Provider Communication Among HIV + Male Patients in Rio de Janeiro, Brazil

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Abstract

We assessed reported communication with HIV providers about reproductive plans among HIV + men in Rio de Janeiro, Brazil, and factors associated with having had such communication. A total of $N = 311$ HIV + men (18–50 years) receiving HIV care at one of six public primary care clinics in Rio de Janeiro between 2008–2009 were surveyed. We used descriptive statistics, and multivariate logistic regression to identify factors associated with communication about childbearing with an HIV provider. HIV + male patients (mean age = 42.7 years, 57% mixed race; 23% bisexual, 51% married/committed partner, 61% with at least one biological child, 77% on ART) reported accepting attitudes of HIV and childbearing (51%), the desire (39%), and/or intention (19%) to have a future child, and reported communication with the HIV provider (14%) or their primary partner (28%) about having children. There were no significant differences between the responses of HIV + heterosexual and bisexual men on the above outcomes. Men who discussed childbearing with their HIV provider were more likely to have accepting attitudes about HIV and childbearing [AOR 2.8, 95%CI (1.2–6.4), $p = 0.014$], and intend to have a child [AOR 2.6, 95% CI (1.2–5.6), $p = 0.018$], but less likely to have discussed this topic with their partner [AOR 0.32 (0.15–0.68), $p = 0.003$]. Among men reporting communication, 40% (17/42) reported advice against having a child. An unmet need for collaborative, nonjudgmental, and provider-initiated communication about childbearing goals exists for HIV + men in clinical care.

Introduction

In the last decade, the topic of childbearing intentions among people living with HIV globally has received increasing attention. The majority of such research focuses on the reproductive goals of women living with HIV; however, limited data including the perspective of men living with HIV (HIV + men) on future childbearing have been published from a few high income (US, UK, Switzerland),[1–3] middle income (Brazil and South Africa),[4–7] and low income (Nigeria, Uganda) countries.[8–10] Researchers in Sao Paulo, Brazil were among the first to publish data regarding fertility intentions among HIV + women[11] and men,[4] reporting a significant proportion (43–50%) of HIV + men in Brazil want to have a(another) biological child in the future.[4–6]

Recognizing the importance of having children among HIV + men, patients need to be able to discuss and plan such childbearing decision making with their HIV provider and partner. There is growing awareness of the unmet need for reproductive counseling among HIV + women in clinical care, as illustrated by recent studies in Brazil,[12,13] the United States,[14–17] and sub-Saharan Africa.[18,19] This same need for reproductive counseling among HIV + male patients has been largely ignored.[20]

This study assesses the desire and intention to have a biological child among HIV + heterosexual and bisexual men receiving HIV clinical care at public municipal hospitals in Rio de Janeiro, Brazil, in addition to their reported communication with HIV providers about realizing this goal. To our knowledge, this is the first article specifically assessing factors associated with HIV + men's communication with their HIV providers regarding reproductive goals in Brazil. Furthermore, this study was conducted in decentralized public health centers rather than specialized academic reference

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centers. We aim to answer the following research questions: (1) What proportion of HIV + men desire and intend to have a child in the future? (2) What proportion of HIV + men have discussed this topic with their provider? (3) Do responses differ significantly between HIV + heterosexual or bisexual male patients? and (4) What characteristics of male patients are associated with the likelihood of having such communication with one's provider?

Methods

A total of $n = 900$ HIV + patients receiving HIV clinical care at one of six public primary care reference clinics between 2008–2009 were referred by their health providers and participated in the study. The six primary care clinics were strategically selected to reflect the geographic and socioeconomic differences among the 27 clinics of this type in Rio de Janeiro. This analysis focused on the 311 heterosexual and bisexual HIV + men who completed questions related to future childbearing plans included in the larger survey assessing a multitude of topics relevant to people living with HIV. Childbearing related data from the 180 HIV + female participants of reproductive age have been published,[13] and such items were skipped for the 409 homosexual male participants.

Patients between the ages of 18–50 years with a confirmed HIV diagnosis were eligible to participate and were informed of the purpose and potential risks and benefits of participation in a private room of the clinic. Participants provided written informed consent before taking the interviewer-administered survey, which required approximately 50 min. The questionnaire was written and administered in Portuguese and then translated into English to facilitate analyses. The Institutional Review Board at the Oswaldo Cruz Foundation in Brazil approved research protocols.

Measures

To assess desires and actual intentions, men were asked in separate questions if they want to have a child in the future and if they intend to have a child in the future. To assess direct communication about this topic, we asked ''Have you or your partner ever talked with your provider about having a child in the future?'' and ''Has your provider ever advised you against having a child?'' Participants were also asked, ''Have you discussed having a child with your current partner?'' Responses options to all of the above questions were yes or no. Unmet need for communication with HIV providers about future childbearing options was calculated as the proportion of men who responded ''yes'' to wanting or intending to have a child, but responded ''no'' to ever discussing the topic with their HIV provider.

We used the Relationship with Clinical Care Providers: The Patient Reactions Assessment (PRA) scale, developed by Galassi et al. to measure patients' perceived quality of the patient–provider relationship.[21] We used 12 items to measure the scale's three subdomains: Patient Information Index, Patient Communication Index, and Patient Affective Index, with response options ranging from strongly disagree to strongly agree. The scale had high reliability with Cronbach's alpha of 0.86 and was divided into low (less than 44), medium (45–47), and high (48) based on the distribution of scores. Accepting attitude regarding HIV and childbearing was assessed by the single question, ''Do you think its okay for an HIV + woman to become pregnant and have a child?'' To measure perceived HIV stigma, we used eight items from the HIV Stigma Scale developed by Berger and colleagues (e.g., I feel guilty because of HIV).[22] Higher scores reflected higher frequency of experiencing stigma from HIV, and the Cronbach's alpha was 0.76. The scale was then dichotomized at the median score of 14 (range 8–32) to create responses of low versus high HIV discrimination. Self-reported quality of life in the past 6 months was assessed by the question, ''How would you classify your quality of life in the past 6 months?'' with response options of 'bad, satisfactory, good, very good, or excellent.'

Analyses

We used descriptive statistics to summarize key outcomes among HIV + male patients, and Pearson's chi-squared tests to assess significant differences in sexual orientation (heterosexual vs. bisexual). Variables with a p-value less than 0.1 in bivariate logistic regression analyses were maintained for multivariate analysis, in addition to theoretically relevant variables including age, parity, race, level of education, and relationship status. Multivariate logistic regression using backward stepwise selection identified factors associated with previous communication about childbearing with one's HIV provider. We calculated the chi-square and Hosmer-Lemeshow statistic for the model and assessed collinearity between key variables in the logistic regression.

Results

Sample characteristics

The majority of HIV + male participants were heterosexual (77%) and of mixed race (57%). Among those in a committed relationship, 92% said their partner was aware of their HIV + status, nearly 35% had been with their partner over 10 years, and 61% reported one or more biological children. Among those on ART (77%), approximately two-thirds self-reported perfect adherence in the previous 4 days (Table 1).

Childbearing attitudes, desires and intentions, and communication reported by HIV+ men

Nearly 40% of HIV + men reported the desire to have a child in the future. When asked if they actually intended to have a child, that proportion dropped to only 19% of men. Just over half of the HIV + men interviewed (51%) held accepting attitudes regarding HIV and childbearing. In regard to communication about future childbearing goals, only 14% of men reported that they had discussed childbearing with a HIV provider. Among men reporting communication with their provider, 40% (17/42) said their provider advised them *against* having a child. The Relationship with Clinical Care Provider Scale scores ranged from 13 to 48 (out of a possible range of 12–48) with a median score of 48 (Mean 44.2; SD 6.5), indicating extremely positive perceptions of their HIV provider. A minority of participants' scores (25%) indicated a low quality relationship with their provider (Mean 35.3; SD 7.7). Twice as many men (28%) reported discussing future childbearing with their primary partner compared to their provider, and only 7% of men reported

Table 1. Characteristics of 311 HIV+ Male Patients Included in This Study

Characteristics	*HIV-infected men* N = *311 (%)*
Mean age (SD), range	42.7 (7.2), 23–55 years
Race	
Black	57 (18)
White	78 (25)
Mixed	176 (57)
Sexual orientation	
Heterosexual	238 (77)
Bisexual	71 (23)
Relationship status	
Single without committed partner	112 (36)
Married or with committed partner	159 (51)
Separated, divorced or widowed	40 (13)
Years with partner[a]	
<1 year	18 (10)
1–5 years	53 (30)
6–10 years	44 (25)
>10 years	63 (35)
Partner disclosure[a]	
Partner HIV status (positive or unknown)	79 (44)
Partner knows your HIV positive status	167 (92)
Biological children	
Yes	190 (61)
Mean number, (SD) range	2.2, (1.5) 1–10 children
Level of education	
Some or complete primary education	143 (46)
Some or complete secondary education	120 (39)
Some or complete higher education	48 (15)
Religious affiliation	
Catholic	125 (40)
Evangelical (traditional or penticostal)	97 (31)
Other [Spiritualist, Afro-Brazilian (Candomble, Macumba)]	52 (17)
None	37 (12)
ART	
Currently on ART	240 (77)
Report perfect adherence (last 4 days, self-report)	207 (86)

[a]Among 181 reporting a current partner (committed or casual).

communication with both their partner and HIV provider (Table 2).

Comparisons between HIV+ heterosexual and bisexual men on key outcomes

There were no significant differences between the responses of heterosexual and bisexual HIV+ male patients regarding attitudes, desires and intentions, communication regarding future children, HIV discrimination, nor perceived quality of life (Table 3). Consequently, we did not control for sexual orientation in the multivariate logistic regression (Table 4).

Table 2. Childbearing Attitudes, Goals, and Communication Among HIV+ Male Patients, $n = 311$

Variables	n *(%)*
Attitudes	
"Okay for HIV+ woman to become pregnant?" (yes)	149 (51)
Desires	
Want to have a child in the future (yes)	115 (39)
Want to have 1 child	66 (57)
Want to have >1 child	49 (43)
Intentions	
Intend to have a child in the future (yes)	57 (19)
Intend to have 1 child	28 (49)
Intend to have >1 child	29 (51)
Communication about childbearing	
Reported communication w/HIV provider	42 (14)
Reported provider advised against childbearing	17 (40)
Relationship w/clinical care provider Scale, mean (SD)	44.2 (6.5)
Reported communication w/partner	81 (28)
Reported communication w/partner and provider	22 (7)

Factors associated with communication with HIV providers

In bivariate analyses, HIV+ men with more accepting attitudes about HIV, those with future childbearing desires and/or intentions, and men reporting lower satisfaction with the provider relationship were significantly more likely to have reported previous communication about this topic with their HIV provider. Men who had discussed childbearing with their primary partner were significantly less likely to discuss this topic with their HIV provider. In multivariate logistic regression analyses, controlling for theoretically driven variables including age, parity, relationship status, race and education level; men with more accepting attitudes about HIV and childbearing were over twice as likely to report discussing this topic with their HIV provider [AOR 2.8, 95% CI (1.2–6.4), $p = 0.014$]. Not surprisingly, men who intended to have a child were over twice as likely to have discussed this topic with their HIV provider [AOR 2.6, 95% CI (1.2–5.6), $p = 0.018$]. Men reporting lower scores on the Relationship w/ Clinical Provider Scale were marginally more likely to report such communication with their HIV provider [AOR 2.4, 95% CI (0.99–5.5), $p = 0.051$]. The findings that men who had discussed future childbearing with their partner were significantly less likely to discuss childbearing with their HIV provider remained significant in multivariate analyses [AOR 0.32, 95% CI (0.15–0.68), $p = 0.003$].

Covariates in the model were assessed for colinearity. All correlations were low, $r < 0.3$, with the exception of childbearing desires and intentions which were moderately correlated at $r = 0.61$. Only childbearing intentions remained significant in the multivariate model. The Hosmer Lemeshow goodness of fit statistic, $X^2 = 33.7$, $p < 0.001$ ($n = 275$ observations), indicated a poor model fit, suggesting there are other variables contributing to the variance in reported

Table 3. Comparison of Communication with HIV Providers and Other Key Variables Between HIV+ Heterosexual and Bisexual Males in Rio de Janeiro, Brazil

Variables	*Heterosexual* n=*238*	*Bisexual* n=*71*	X^2 / *t(df)*	p *Value*
Attitudes				
"Okay for HIV+ woman to become pregnant?"	117 (49.8)	31 (55.3)	0.56	0.45
Desires				
Want to have a child in the future (yes)	91 (38.7)	23 (41.8)	0.18	0.67
Intentions				
Intend to have a child in the future (yes)	45 (19.6)	12 (23.1)	0.31	0.58
Communication about childbearing				
Provider				
You/partner talked about future childbearing (yes)	33 (14.0)	9 (16.1)	0.17	0.68
Relationship w/ clinical provider scale mean (SD)	44.5 (6.1)	42.9 (7.9)	1.78 (306)	0.07
Partner				
Talked with primary partner about future pregnancy (yes)	71 (30.1)	10 (18.8)	2.69	0.10
Taking antiretroviral therapy	185 (78)	54 (76)	0.08	0.77
HIV stigma mean (SD)	14.7 (5.9)	14.2 (5.4)	0.71 (307)	0.47
Perceived quality of life (low)	96 (40.3)	29 (40.8)	0.006	0.94

communication with providers that were not measured in this model.

Discussion

Reproductive counseling about future childbearing is an unmet need among HIV+ men in Rio de Janeiro. Among HIV+ men in this study who want to have a child in the future, nearly two-thirds have not discussed this possibility with their HIV provider. Participants' sexuality (heterosexual vs. bisexual) did not appear to influence attitudes, plans or communication about future children, suggesting this topic should at least be raised with all heterosexual and bisexual men receiving HIV care. In regard to communication with HIV providers, men who were more likely to want or intend to have a child in the future were logically more likely to have discussed this topic of increased relevance in their lives. It is uncertain from these data, however, who initiated such communication. It should not be presumed that such conversations were necessarily supportive of informed reproductive decision making, as 40% of men reported they were advised against having a child in the future.

Unfortunately, these data do not include the providers' rational or justification for such advice. While findings regarding the quality of the patient–provider relationship and perceived quality of life were only marginally significant (<0.1), the direction of the association may initially seem counterintuitive. We cannot tell from these findings if communication about childbearing that was met with discouragement from providers may have contributed to strained provider relationships. Additional qualitative methods are needed to better understand the relationship between provider–patient relationship, quality of life, and past communication about reproduction options with one's HIV provider.

Men in our study reported slightly lower desires to have a child (39%) compared to 43% and 50% reported in previous studies in Sao Paulo.[4,5] While reported communication with HIV providers was not directly measured by Paiva and colleagues, they reported most participants did not feel health professionals were supportive enough or even impartial about their desire to have a child, and that men's knowledge of perinatal transmission risk was low.[4,5] Comparing our data to those of other studies directly assessing communication about future reproductive plans among HIV+ men, we found

Table 4. Multivariate Logistic Regression to Identify Factors Associated with Communication with HIV Provider About Having a Child in the Future Among HIV+ Men in Rio de Janeiro, Brazil

Characteristics	*Bivariate OR (95% CI),* p	*Adjusted OR (95% CI),* p
Communication with provider about childbearing		
Accepting attitude re: HIV and childbearing	2.1 (1.1–4.3), 0.03	2.8 (1.2–6.4), 0.014
Desire to have a child	2.9 (1.5–5.7), 0.002	
Intention to have a child	4.5 (2.2–9.2), <0.001	2.6 (1.2–5.6), 0.018
Communication with partner about childbearing	0.32 (0.13–0.52), <0.001	0.32 (0.15–0.68), <0.003
Relationship w/clinical provider scale (low)	2.4 (1.1–5.2), 0.024	2.4 (0.99–5.5), 0.051
Antiretroviral therapy (yes)	1.3 (0.58–3.0), 0.51	
HIV stigma scale (high)	1.2 (0.64–2.4), 0.51	
Report lower quality of life	1.8 (0.92–3.4), 0.09	

Controlling for: age, parity, race, level of education, and relationship status.

only 9.4% (3/32) of men in a small study in London[2] and 6% (10/174) of men in Cape Town, South Africa[9] reported such discussions. Assessing patient–provider communication about reproductive health among HIV-positive women in Brazil, Malta and colleagues reported the neglect of reproductive health issues (e.g., contraceptive choice, childbearing plans, and the social and interpersonal factors influencing them) among multiple cadres of HIV providers.[12] These findings were consistent with an observational study among HIV providers in Rio de Janeiro reporting limited communication about safer sexual practices.[23]

While often neglected and far from being routine, sexual and reproductive health is more likely considered for HIV + female patients of reproductive age compared to their male counterparts. Only 37% (22/81) of men who discussed this topic with their primary partner also discussed it with their HIV provider, suggesting many men may rely upon their female partner to solicit advice about safer childbearing. The neglect of fatherhood among HIV + male patients may reflect the historical emergence of HIV among primarily homosexual males in Brazil and the current context in which sexual and reproductive health of men receives less focus. In November 2008, the Ministry of Health of Brazil published protocols and directives to increase the attention paid to men's health issues, including efforts to address men's sexual and reproductive health needs and increase their participation in planning and supporting healthy reproduction.[24] These data demonstrate an area of health and HIV prevention among male patients that needs to be included in this larger national effort.

Strengths and limitations

This is one of few studies to report communication with HIV providers about having children among HIV + men. This study points to an unmet counseling need among HIV + male patients receiving routine follow-up care from a pool of public health centers in Rio de Janeiro. These data reflect a relatively small number of items that were used to assess fertility desires and related communication in the context of a larger study addressing a multitude of other issues. The patient–provider relationship scale measured the quality of communication in general and was not specific to communication about future childbearing. Future studies that can explore these issues in depth combining qualitative and quantitative methods are needed. The question assessing communication about childbearing included the patient or their partner's communication about this topic, thus the proportion of HIV + men reporting communication may be slightly overestimated. The inclusion of homosexual men from the larger study would have provided additional novel data that has not yet been assessed. The perspective of HIV providers is missing in this analysis and thus we emphasize these data only represent participants' report of communication with their providers that occurred. Furthermore, the cross-sectional assessments do not allow for determination of temporality and thus we cannot conclude if, for example, provider relationship ratings predicted communication or perhaps were a consequence of such communication. Future research with HIV providers to better understand their attitudes, motivations, and perceived barriers to discussing reproductive options with patients is needed.

Implications for practice

These findings inform recommendations for clinical practice. First, they point to the need to integrate discussion of reproductive plans as a routine component of HIV clinical care for both male and female HIV + patients. In the absence of global guidelines, however, many HIV providers struggle to provide guidance to patients who want to conceive safely. Thus, guidelines for clinical practice and additional training of HIV providers on safer childbearing options are needed in Brazil. Recent scientific findings regarding the promising use of early ART initiation to reduce infectiousness,[25] and pre-exposure prophylaxis (PrEP)[26] provide more feasible options for safer conception that should motivate and accelerate efforts to include routine assessments of childbearing plans with all patients to avoid missed opportunities to reduce transmission and to maximize patients' reproductive rights. HIV providers will likely feel more confident to discuss ART related options to minimize risk to serodiscordant couples during conception, compared to previously available options (e.g., sperm washing, insemination, timed unprotected sex)[27] that likely feel beyond the scope of their training. Provider-initiated, open communication about reproductive plans is a necessary first step to maximize available prevention opportunities. A strategy for assessing needs and referring patients for in depth reproductive counseling can diminish the training and time demands of primary HIV providers if and when a trained safer conception counselor is available.

Conclusions

As demonstrated by these data, the importance of reproductive plans is not exclusive to women, and men's role as fathers should not be overlooked. HIV + men in Brazil need to understand their reproductive options to reduce transmission risk to their female partners and future children.

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