

Desire to Have Children: Gender and Reproductive Rights of Men and Women Living with HIV: A Challenge to Health Care in Brazil

VERA PAIVA, Ph.D.,¹ NAILA SANTOS, M.D., Ph.D.,² IVAN FRANÇA-JUNIOR, M.D., Ph.D.,¹
ELVIRA FILIPE, Ph.D.,² JOSÉ RICARDO AYRES, M.D., Ph.D.,¹
and ALUISIO SEGURADO, M.D., Ph.D.¹

ABSTRACT

Links between HIV/AIDS care and reproductive health, including fertility options for people living with HIV (PLWH), have not been sufficiently addressed by health care providers. Moreover, few studies have addressed men in this regard. To describe attitudes toward parenthood and identify factors associated with desire to have children among men and women living with HIV a cross-sectional study involving a sample of 533 women and 206 men (bisexual and heterosexual) attending two reference sexually transmitted disease (STD)/AIDS centers in São Paulo, Brazil. Participants answered a standardized questionnaire. Desire to have children as the study outcome was compared between men and women and associated factors searched for in multivariable regression analysis. In contrast to previous studies conducted in developed countries, desire to have children in this sample was more frequent among men than among women and it was reported by 27.9% of participants (50.1% of men versus 19.2% of women). Women were more likely to anticipate doctors' strong opposition to PLWH getting pregnant and men reported lower information level about HIV/mother-to-child transmission (MTCT). Bisexual men were more likely to desire to have biologic children. Male gender, younger age, having no children, living with 1–2 children, and being in a heterosexual partnership were independently associated with desire to have children. Regardless of gender, the childless as well as the youngest should be regarded as groups to be particularly targeted by counseling, to be provided with objective information about reproductive rights and options. Further research is warranted to address the desire for children among strictly homosexual men.

INTRODUCTION

GIVEN THE STRONG IMPACT that AIDS has brought about on sexuality and reproduction, the need to link HIV/AIDS care and reproductive health interventions has been recognized for more than a decade.^{1,2} Documented improvement in assisted reproduction

technologies (ART), fertility options for couples living with HIV,^{3,4} and effective prevention of mother-to-child transmission (MTCT) have influenced HIV-infected women's decisions on having children.^{5,6} On the other hand, AIDS-related stigma and discrimination have been recognized as important barriers for quality reproductive health care for people living with HIV.^{7–13}

¹University of São Paulo, ²São Paulo State STD/AIDS Programme, Sao Paulo, Brazil.

In Brazil, where heterosexual transmission accounts for most AIDS cases, this concern seems particularly relevant, as epidemic trends indicate a steady increase of reported cases among women. In addition, universal and free access to antiretrovirals, provided by the public health sector, remarkably decreased AIDS-related morbidity and mortality.¹⁴ In this context, a National Policy on Reproductive Health that includes people living with HIV was announced by Brazilian health care authorities, though not implemented so far. Identifying predictors of desire to have children among men and women with HIV is useful for the implementation of policies and practices that incorporate reproductive health options as a right to be fulfilled, and may help establish intervention priorities and target groups to be addressed.

Even though reproductive decision contexts and mothering experiences of women living with HIV have been previously described,^{6,15-18} few studies have addressed HIV-positive men in this regard, enabling analysis of gender differences concerning reproductive decisions.^{11,12,14,19-21} International recommendations indicate that male involvement is crucial for the success of HIV/AIDS prevention and reproductive health program implementation.^{22,23} This paper describes factors associated with desire to have children of a sample of Brazilian bisexual and heterosexual men and women living with HIV.

MATERIALS AND METHODS

Patient selection

Participants were recruited at two specialized AIDS care centers (Centro de Referência e Treinamento DST/AIDS of the São Paulo State Health Department and Casa da AIDS of the University of São Paulo School of Medicine), located in the city of São Paulo, Brazil. The study protocol was approved by the Ethics Committees of both institutions.

From September 1999 to February 2000, the first two women who attended an outpatient medical visit at each site, in three different working shifts (8:00–12:00 AM, 12:00 AM–4:00 PM, and 4:00–8:00 PM), were invited to partici-

pate in the study.²⁴ From October 2001 to January 2002 we enrolled an additional consecutive sample of male patients. The first 10 men arriving for outpatient visits were handed an informative leaflet about the study and were subsequently addressed by an interviewer, who questioned them the following: "Do you have sex with women?" In case of an affirmative answer, they were invited to participate in the study. Self-identified strictly homosexual men were not included in the study.

Procedures

After obtaining written consent, participants (729 women and 250 men) answered a face-to-face standardized questionnaire to determine demographic characteristics, desire to have children, length of time since HIV diagnosis, sexual and reproductive history, and current use of antiretrovirals (ARV). Moreover, the questionnaire included interviewees' perceptions of the ability of health care professionals in clarifying their doubts, an assessment of the reproductive health counseling they were provided, as well as their anticipation of physicians' reactions to parenthood desires of people living with HIV/AIDS.

As far as knowledge about fertility options and prevention of HIV MTCT is concerned, we established a score (ranging from 0 to 6) to measure patients' level of information, adding up the number of affirmative answers to the following questions: "Have you been informed that . . . (1) babies can be infected with HIV during pregnancy; (2) babies can be infected with HIV during delivery; (3) babies can be infected with HIV by breastfeeding; (4) there is medication a mother-to-be may take to reduce the risk of MTCT; (5) a baby born to an HIV-infected mother should take medication from birth to reduce the risk of MTCT; (6) there are adequate contraceptive methods for women living with HIV?"

We asked men and women whether their current sexual partners were male or female. We then questioned male participants when they had their last sexual intercourse with a woman, as well as with a man. Men were considered bisexual (38%) whenever they reported having had a male partner in their lifetime.

Statistic analysis

For analytical purposes, we defined desire to have children as the study outcome. Participants aged over 50, those who reported surgical sterilization, or who did not answer the question about parenthood desire, as well as pregnant women, were excluded from the analysis. The final study sample consisted thus of 533 women and 206 men living with HIV/AIDS.

In regard to sociodemographic variables, sexual and reproductive history, knowledge about prevention of HIV/MTCT, as well as anticipation of physicians' reactions to parenthood desire of PLWH, differences between men and women were sought after, using Pearson's χ^2 test for trend (Table 1). Prevalences of the study outcome were then calculated and compared between men and women.

To identify associated factors with desire to have children, a nonconditional logistic regression analysis was performed to calculate odds ratios (OR) and their respective confidence intervals (95% CI). As independent variables we tested: age, gender, years of education, skin color, working status, income, age at first intercourse, number of children, having a current steady sexual partner of the opposite gender, steady partner's HIV serostatus, lifetime number of sexual partners, information level about HIV/MTCT, length of time since HIV diagnosis, current use of ARVs, and anticipation of physicians' reactions towards parenthood desires of PLWH.

Independent variables were categorized according to their p values in χ^2 tests and their OR. For multivariable analysis, factors associated with $p < 0.10$ in univariable analysis were included in a forward stepwise multiple logistic regression model. Variables were entered in the model from the highest to the lowest values of the univariable log likelihood. All p values were two-tailed at a significance level of 5%. Statistical analysis was performed using Stata 8.0 (StataCorp., College Station, TX). A variable was kept in the final model when associated with the outcome or when having a significant confounding effect on variables previously included in the model (i.e., a change in adjusted OR over 10%)

RESULTS

Two hundred two (27.9%) participants reported desire to have children. Among men this proportion was 50.1% ($n = 103$), in contrast to 19.2% ($n = 99$) of women. Desire for parenthood was more frequent among both childless men and women (65% versus 36%, respectively), compared to those who had 1 child (48% versus 19%), 2–3 children (34% versus 7%), and more than 4 children (24% versus 3%).

Among men, 37.1% (of 202 respondents) reported having had a male sexual partner in the previous 5 years. Bisexual men were more likely to desire to have biologic children (60%) than heterosexual men (44.1%) ($p < 0.03$). They were also more likely to be single and not to have children. There were no bisexual women in the study sample.

No significant differences between men and women were shown concerning reported years of education, self-reported skin color, and current use of ARV (Table 1). Most male and female interviewees were single, whereas women were more likely to be widowed or divorced. Men were more likely to be employed and to have a higher family *per capita* income, and were longer aware of their HIV diagnosis, as compared to women. In contrast, women were more likely to have children and to live with them, not to have a steady sexual partner, and to have had their first sexual intercourse aged over 15. Men reported a higher number of lifetime sexual partners. Women more often reported having an HIV-positive partner, whereas men were more likely to ignore their partners' serostatus. Women were more likely to anticipate doctors' strong opposition to people living with HIV/AIDS getting pregnant and men reported lower information level about HIV/MTCT.

On univariable analysis, desire to have children was shown to be associated with younger age (17 to 34 years), gender (male), marital status (married or single), higher level of education, higher income, and being employed. Additionally, having one or no children, living with less than two children, having had the first intercourse aged less than 15, reporting five or more lifetime sexual partners, having a sexual

TABLE 1. FREQUENCY OF SELECTED VARIABLES OF A SAMPLE OF WOMEN AND MEN LIVING WITH HIV/AIDS, SÃO PAULO, BRAZIL, 1999–2001

	Sample n (%)	Female n (%)	Male n (%)
Age (years) ^a			
17–24	63 (8)	54 (10)	9 (4)
25–29	138 (19)	110 (21)	28 (14)
30–34	168 (23)	129 (24)	39 (19)
35–44	284 (38)	193 (36)	91 (44)
45–49	86 (12)	47 (9)	39 (19)
Years of education ^b			
0–4	107 (14)	82 (15)	25 (12)
5–8	238 (32)	174 (33)	64 (31)
9–11	268 (36)	194 (36)	74 (36)
12 or above	126 (17)	83 (16)	43 (21)
Per capita income (in # of minimum wages) ^a			
0–0.99	215 (29)	175 (33)	40 (19)
1–1.99	180 (24)	129 (24)	51 (25)
2–3.99	150 (20)	102 (19)	48 (23)
4 or above	137 (19)	80 (15)	57 (28)
Ignored	57 (8)	47 (9)	10 (5)
Working status ^a			
Unemployed	307 (42)	276 (52)	31 (15)
Employed	432 (58)	257 (48)	175 (85)
Skin color (self-reported) ^b			
Black	322 (44)	240 (45)	82 (40)
Not black	417 (56)	293 (55)	124 (60)
Marital status ^a			
Widowed or divorced	190 (26)	164 (31)	26 (13)
Married	196 (26)	111 (21)	85 (41)
Single	353 (48)	258 (48)	95 (46)
Age at first sexual intercourse ^d			
6–14	163 (22)	56 (11)	107 (52)
15–18	401 (55)	318 (60)	83 (40)
19 years or above	171 (23)	155 (29)	16 (8)
Lifetime number of sexual partners			
1–4	317 (43)	304 (57)	13 (6)
5–9	159 (22)	122 (23)	37 (18)
10 or above	237 (32)	101 (19)	136 (66)
Ignored	26 (3)	6 (1)	20 (10)
Partner's gender & HIV serostatus			
No partner	255 (35)	224 (42)	31 (15)
Opposite gender, HIV positive	167 (23)	132 (25)	35 (17)
Opposite gender, HIV negative	284 (38)	177 (33)	107 (52)
Opposite gender, unknown serostatus	8 (1)	—	8 (4)
Same gender partners, HIV negative or HIV positive	25 (3)	—	25 (12)
Number of biologic children ^c			
None	242 (33)	149 (28)	93 (45)
1	202 (27)	156 (29)	46 (22)
2–3	241 (33)	191 (36)	50 (24)
4–10	52 (7)	35 (7)	17 (8)
Number of children living with her/him (biologic and "adopted") ^a			
None	331 (45)	193 (36)	138 (67)
1–2	326 (44)	274 (51)	52 (25)
3–5	82 (11)	66 (12)	16 (8)
Information level about HIV mother-to-child transmission (0 to 6 score) ^a			
0–1	165 (22)	103 (19)	62 (30)
2–3	77 (10)	37 (7)	40 (19)
4–6	497 (67)	393 (74)	104 (51)

(continued)

TABLE 1. FREQUENCY OF SELECTED VARIABLES OF A SAMPLE OF WOMEN AND MEN LIVING WITH HIV/AIDS, SÃO PAULO, BRAZIL, 1999–2001 (CONT'D)

	Sample n (%)	Female n (%)	Male n (%)
Anticipation of physicians' reactions toward parenthood desire of PLWHA ^a			
Supportive, neutral, or slightly opposed	522 (71)	341 (64)	181 (88)
Strongly opposed	195 (26)	174 (33)	21 (10)
Cannot anticipate	22 (3)	18 (3)	4 (2)
Time since HIV diagnosis (years) ^a			
0–2	233 (32)	183 (34)	50 (24)
3–4	200 (27)	162 (31)	38 (19)
5 or above	305 (41)	188 (35)	117 (57)
Currently on ARV ^a			
Yes	655 (89)	468 (88)	187 (91)
No	84 (11)	65 (12)	19 (9)

^a $p \leq 0.001$.

^bNon-significant.

^c $n = 737$.

^d $n = 735$.

PLWHA, people living with HIV/AIDS; ARV, antiretrovirals.

partner regardless of partner's gender, having an intermediate-level knowledge about MTCT and anticipating strong opposition to childbearing from their physicians were also shown associated with desire to have children. In contrast, self-reported skin color, time since HIV diagnosis and current ARV use were not associated with desire to parenthood (Table 2).

Table 2 also presents the adjusted OR, obtained after multivariable analysis. Variables shown independently associated with desire to have children included: younger age (17 to 34 years), gender (male), having no children, living with one or two children, and having a heterosexual partner (regardless partner's HIV serostatus). On the other hand, those with lower or ignored family *per capita* income were less likely to desire to have children. Nearly associated to the outcome were: age between 35 and 44 years old, and not living with a child.

After adjustment, eight variables were not kept in the final model. Examination of the adjustment process revealed that gender was a major confounder controlling working and marital status, age at first sexual intercourse, number of sexual partners, knowledge level of MCTC, and anticipated physicians' opposition to childbearing. Secondly, marital status (being single), higher level of education and income were controlled by childlessness. Last, age at

first intercourse was also controlled by age strata, whereas number of sexual partners and marital status were controlled by partner's serostatus.

The Hosmer-Lemeshow goodness-of-fit statistic yielded no significant difference ($p = 0.62$) between predicted and observed probabilities, what suggests a good fit of the final model. In addition, the receiver operating characteristic curve indicated a good predictive capability (83.4%).

DISCUSSION

This study provides further evidence of how important the desire for parenthood is among people living with HIV. Furthermore, in contrast to previous studies in developed countries, our study showed men to be significantly more likely to declare desire for parenthood.

In the Swiss HIV Cohort Study¹⁰ 22% of men (aged 20–50) and 20% of women (aged 20–40) reported current desire for having children. In a survey of a representative sample of people living with HIV in the United States, 28% of men (aged 20 or older) and 29% of women (aged 20–44) expressed desire to have children in the future.¹⁹ In both these studies, gender was not a predictor of desire for parenthood.

TABLE 2. ODDS RATIO FOR DESIRE TO HAVE CHILDREN AMONG WOMEN AND MEN LIVING WITH HIV IN SÃO PAULO, BRAZIL, 1999–2001

	<i>Reproductive desire</i>		OR	95% CI	p	AOR	95% CI	p
	<i>n (%)</i>							
	No	Yes						
Age (years)								
17–24	33 (52)	30 (48)	6.1	2.8–13.8	0.000	11.1	3.7–33.3	0.000
25–29	84 (61)	54 (39)	4.4	2.1–9.0	0.000	8.4	3.2–21.3	0.000
30–34	116 (69)	52 (31)	3.1	1.5–6.2	0.002	5.1	2.1–12.3	0.000
35–44	229 (81)	55 (19)	1.6	0.8–3.2	0.170	2.1	0.9–4.8	0.080
45–49	75 (87)	11 (13)	1.0	—	—	1.0	—	—
Gender								
Female	434 (81)	99 (19)	1.0	—	—	1.0	—	—
Male	103 (50)	103 (50)	4.4	3.1–6.2	0.000	4.4	2.3–8.5	0.000
Years of education								
0–4	88 (82)	18 (19)	1.0	—	—	1.0	—	—
5–8	174 (73)	64 (27)	1.7	1.0–3.0	0.070	1.2	0.6–2.5	0.610
9–11	189 (71)	79 (29)	1.9	1.1–3.4	0.030	1.2	0.6–2.5	0.650
12 or above	86 (68)	40 (32)	2.2	1.2–4.0	0.020	1.3	0.5–3.0	0.600
Skin color								
Black	235 (73)	87 (27)	1.0	—	—	—	—	—
Non-black	302 (72)	115 (28)	1.0	0.7–1.4	0.870	—	—	—
Working status								
Unemployed	245 (80)	62 (20)	1.0	—	—	1.0	—	—
Employed	292 (68)	140 (32)	1.9	1.3–2.7	0.002	1.3	0.8–2.1	0.220
Income per capita (in # of minimum wages)								
0–0.99	165 (77)	50 (23)	1.0	—	—	1.0	—	—
1–1.99	139 (77)	41 (23)	1.0	0.6–1.6	0.910	0.5	0.3–1.0	0.040
2–3.99	102 (68)	48 (32)	1.5	1.0–2.5	0.060	0.7	0.4–1.3	0.250
4 or above	86 (63)	51 (37)	2.0	1.2–3.1	0.005	0.6	0.3–1.3	0.220
Ignored	45 (79)	12 (21)	0.9	0.4–1.8	0.720	0.4	0.2–1.0	0.050
Marital status								
Widowed/divorced	160 (84)	30 (16)	1.0	—	—	1.0	—	—
Married	144 (73)	52 (27)	1.9	1.2–3.1	0.020	0.8	0.4–1.5	0.420
Single	233 (66)	120 (34)	2.7	1.7–4.2	0.000	0.8	0.4–1.4	0.430
Age at first sexual intercourse (years)								
6–14	92 (56)	71 (44)	3.3	2.0–5.5	0.000	1.3	0.6–2.6	0.510
15–18	302 (75)	99 (25)	1.4	0.9–2.2	0.120	1.0	0.6–1.8	0.860
19 or above	139 (81)	32 (19)	1.0	—	—	1.0	—	—
Lifetime number of sexual partners								
1–4	262 (83)	55 (17)	1.0	—	—	1.0	—	—
5–9	112 (70)	47 (30)	2.0	1.3–3.1	0.002	1.3	0.7–2.2	0.400
10 or above	149 (63)	88 (37)	2.8	1.9–4.2	0.000	1.4	0.8–2.4	0.300
Ignored	14 (54)	12 (46)	4.1	1.8–9.3	0.001	2.2	0.7–6.9	0.160
Number of biologic children								
None	128 (53)	114 (47)	8.4	3.2–21.8	0.000	4.9	1.3–18.1	0.020
1	151 (75)	51 (25)	3.2	1.2–8.4	0.020	1.5	0.5–5.1	0.500
2–3	210 (87)	31 (13)	1.4	0.5–3.8	0.520	1.0	0.3–3.2	1.000
4–10	47 (90)	5 (10)	1.0	—	—	1.0	—	—
Number of children living with her/him (biologic and “adopted”)								
None	192 (58)	139 (42)	19.1	5.9–61.0	0.000	4.0	1.0–16.8	0.060
1–2	266 (82)	60 (18)	5.9	1.8–19.4	0.003	5.1	1.3–19.8	0.020
3–5	79 (96)	3 (4)	1.0	—	—	1.0	—	—
Partner’s sex & HIV serostatus								
No partner	218 (85)	37 (15)	1.0	—	—	1.0	—	—
Opposite gender, HIV positive	125 (75)	42 (25)	2.0	1.2–3.2	0.007	1.8	1.0–3.5	0.050
Opposite gender, HIV negative	181 (64)	103 (36)	3.3	2.2–5.1	0.000	2.5	1.5–4.1	0.001
Opposite gender, unknown serostatus	3 (37)	5 (63)	9.8	2.2–42.8	0.002	2.5	0.3–17.6	0.360
Same sex partners, HIV negative or HIV positive	10 (40)	15 (60)	8.8	3.6–21.1	0.000	1.0	0.3–3.0	0.900
Information level about HIV mother-to- child transmission (0 to 6 score)								
0–1	123 (75)	42 (25)	1.0	—	—	1.0	—	—

(continued)

TABLE 2. ODDS RATIO FOR DESIRE TO HAVE CHILDREN AMONG WOMEN AND MEN LIVING WITH HIV IN SÃO PAULO, BRAZIL, 1999–2001 (CONT'D)

	Reproductive desire n (%)		OR	95% CI	p	AOR	95% CI	p
	No	Yes						
2–3	45 (58)	32 (42)	2.1	1.2–3.7	0.012	1.8	0.9–3.7	0.110
4–6	369 (74)	128 (26)	1.0	0.7–1.5	0.940	1.4	0.8–2.4	0.190
Time since HIV diagnosis (years)								
0–2	166 (71)	67 (29)	1.4	0.9–2.1	0.140	1.3	0.7–2.2	0.370
3–4	155 (77)	45 (23)	1.0	—	—	1.0	—	—
5 or above	215 (70)	90 (30)	1.4	0.9–2.2	0.080	1.3	0.8–2.2	0.280
Anticipation of physicians' reactions toward parenthood PLWHA								
Not strongly opposed	363 (70)	159 (30)	1.0	—	—	1.0	—	—
Strongly opposed	152 (78)	43 (22)	0.6	0.4–0.9	0.030	0.8	0.5–1.2	0.300
Could not anticipate	22 (100)	0 (0)	—	—	—	—	—	—
Currently taking ARV								
Yes	60 (71)	24 (29)	1.0	—	—	—	—	—
No	477 (73)	178 (27)	0.9	0.6–1.5	0.780	—	—	—

AOR, adjusted odds ratios; PLWHA, people living with HIV/AIDS; ARV, antiretrovirals.

Among men living in the United States, Chen et al.¹⁹ found no differences between heterosexuals and bisexuals in relation to desire to have children, whereas in the present study, Brazilian bisexual men more often reported desire to have biologic children compared to heterosexuals.

Gender differences in parenthood desire in our cohort may be due to several reasons. Brazilian women living with HIV may present factors that hinder their parenthood desire. In this regard overburden due to their gender roles as domestic care providers of infected or sick partners and children, as well as not having a steady sexual partnership should be considered.^{9,25–27}

Differences between men and women in our study should also be interpreted in the context of the overall parenthood desire of the Brazilian population. As in many other developing countries in Latin America, Asia, and Africa, men as a whole declare higher desire for parenthood and for bigger families compared to women.²⁸ A national household survey on demography and health, carried out with Brazilian men and women aged 15–49 years old, showed that men, regardless of rural or urban residence, country regions, age and education, were more likely than women to want to have children.²⁹ These differences were found to be

wider when the number of children was larger: 87% of men and 78% of women with no children desired parenthood. The proportion decreased for those who had 1–2 children (52% versus 36%) and for those with 3 or more children (17% versus 8%). Accordingly, among the participants in our study those who did not have children or cohabited with fewer children were more likely to desire children. Other studies have shown that in São Paulo State more men than women begin new emotional and sexual partnerships after being diagnosed with HIV infection and this was reported to be an important motivation to parenthood desire.^{9,15,25–27} Studies conducted at the same two specialized AIDS care centers in São Paulo^{9,15,25,26} also have shown that people living with HIV do consider the burden of their disease on their children, who could be affected by the loss of one of both parents and by AIDS-related stigma and discrimination. This factor may explain why their desire for children is less prevalent than among general Brazilian population.²⁹

Studies examining reproductive behaviors of women living with HIV and the impact of HIV diagnosis on pregnancy and birth rates have yielded conflicting results, attributed to cultural and structural regional differences.³⁰ In developing countries, of both Western and

Eastern societies, the World Health Organization³¹ has found an important childlessness stigma and has defined, accordingly, assisted reproduction as a social issue to be considered by public health policies. In the developed world, access to antiretroviral treatment has increased pregnancy incidence among women living with HIV.^{6,17} Both the Swiss and the American studies reported that individuals who experienced improved health while on ARV were significantly more likely to desire parenthood.^{10,19} Even though we did not assess how patients perceived their own health status, all participants in our cohort were under follow-up at AIDS care centers, and 89% of them were on antiretroviral therapy.

Although commonly reported in our cohort, anticipated strong reaction against pregnancy by their physicians was not a predictor of desire to have children. However, this perception may impair people living with HIV's adherence to health care and counseling, hindering their access to the best options for childbearing, as well as to prevention of MTCT.

In our sample, knowledge about MTCT was significantly lower among men, as compared to women. This might be due to the fact that though desire to have children was more frequent among men, parenthood is still usually incorporated in most health services as a female issue. Notably, Brazilian guidelines for HIV posttesting counseling do not include knowledge about MTCT, even though detailed counselling on condom use is emphasized in the context of disclosure of HIV diagnosis.

If we consider men's desires, the AIDS-related antifamily stigma may sum up to sexism in the organisation of reproductive care of people living with HIV/AIDS.⁹ Gender inequities are important barriers to reproductive health care, as recognised by the 57th World Health Assembly in 2004, and have affected the efficacy of specialised care for PLWH.^{2,23}

Childbearing has been described as a widespread desire among men and women in different sociocultural contexts, regardless of their HIV serostatus. Variables other than HIV status are relevant to understand desire for children among women living with HIV, in Brazil, in Zimbabwe,³² or in the United States.^{19,33} For instance, partner's desire for children has been

mentioned as an important component of the motivation-complex to have children among PLWH in São Paulo and elsewhere.^{9,12,20,25,26,30}

HIV/AIDS and reproductive health care services should be organized to assist both men and women in their decision-making by means of providing nonjudgmental and accurate information about risks and benefits of assisted reproduction,³³ listening and addressing sexual and reproductive concerns of PLWH in a comprehensive perspective, and supporting desire for having children. On the other hand, being HIV positive should not legitimate the exclusion of PLWH from assisted reproduction therapy.^{33,34} Desire for adoption as well as *in vitro* fertilization should be considered.

Health care providers should consider that the promotion and protection of reproductive rights of both men and women living with HIV can also contribute to reduce HIV sexual and MTCT.³⁵ As an alternative to the current focus on women-only and MTCT prevention when considering reproduction in the context of the AIDS epidemic, a comprehensive approach should frame parenthood in a continuum of care, ranging from the desire to have children to infant care, beyond pregnancy and delivery care; considering gender inequalities, and incorporating male involvement while taking women's choices into account.^{2,8-10,16,34,36,37}

Self-identified strictly homosexual men were not included in our study, and their desire to have children could be the basis for a future study. Parenthood among people living with HIV regardless their gender or sexual orientation is an important agenda for future investigations and care initiatives.

ACKNOWLEDGMENTS

This study was supported by grants from the Harvard Aids Institute, University of California-San Francisco, and CNPq (Brazilian Ministry of Science and Technology).

REFERENCES

1. Mann J, Tarantola D, Netter T. AIDS in the World. Cambridge, MA: Harvard University Press, 1992: 65-76.

2. Berer M. HIV/AIDS, sexual and reproductive health: intersections and implications for national programmes. *Health Policy Plann* 2004;19(Suppl 1):62–70.
3. Myer L, Morroni C, El-Sadr WM. Reproductive decisions in HIV-infected individuals. *Lancet* 2005;366:698–700.
4. Politch JA, Anderson DJ. Preventing HIV-infection in women. *Report Immun* 2002;13:243–62.
5. Semprini AE, Fiore S. HIV and reproduction. *Curr Opin Obstet Gyn* 2004;16:257–62.
6. Bongain A, Berrebi A, Mariné-Barjoan E, et al. Changing trends in pregnancy outcome among HIV infected women between 1985 and 1997 in two southern French university hospitals. *Eur J Obs Gyn R B* 2002;104:124–28.
7. Wesley Y. Desire for children among black women with and without HIV infection. *J Nurs Scholarship* 2003;35:37–3.
8. Oliveira L, França-Junior. I. Reproductive demands and health care for people living with HIV/AIDS: Limits and possibilities within the context of specialized health care. *Cad Saúde Pública* 2003;19(Suppl 2):S315–323.
9. Paiva V, Ventura Felipe E, Santos N, Lima T, Segurado A. The right to love: The desire for parenthood among men living with HIV. *Reprod Health Matters* 2003;11:91–00.
10. Panozzo L, Battegay M, Friedl A, Vernazza PL. Swiss HIV Cohort study. High risk behaviour and fertility desires among heterosexual HIV-positive patients with a serodiscordant partner—Two challenging issues. *Swiss Med Wkly* 2003;133:124–127.
11. IPAS, ICW, FWFP, FEIM, Gender and AIDS Forum, WOFAK, Punto de Encuentro de la Comunidad. Reproductive rights for women affected by HIV/AIDS. A project to monitor Millennium Development Goals 5 and 6. IPAS 2005. www.ipas.org/publications/en/MDGRR_E05_en.pdf (Last accessed May 2005).
12. Sherr L, Berry N. Fatherhood and HIV-positive men. *HIV Med* 2004;5:258–263.
13. Link BG, Phelan JC. Stigma and its public implications. *Lancet* 2006;367:528–529.
14. Berkman A, Garcia J, Munoz-Laboy M, Paiva V, Parker R. A critical analysis of the Brazilian response to HIV/AIDS: Lessons for controlling and mitigating the epidemic in developing countries. *Am J Public Health* 2005;95:1162–1172.
15. Santos NJ, Ventura Felipe E, Paiva V. HIV positive women, reproduction and sexuality in São Paulo, Brazil. *Reprod Health Matters* 1998;6:31–41.
16. Wesley Y, Smeltzer S, Redeker N, Walker RN, Palumbo P, Whipple B. Reproductive decision making in mothers with HIV-1. *Health Care for Women Int* 2000;21:291–304.
17. Fourquet F, Chenadec J, Mayaux MJ, Meyer L, for the SEROCO and SEROGEST groups. Reproductive behavior of HIV infected women living in France, according to geographical origin. *AIDS* 2001;15:2193–2196.
18. Richter DL, Sowell RL, Pluto DM. Factors affecting reproductive decisions of African American women living with HIV. *Women Health* 2002;36:81–96.
19. Chen JL, Philips KA, Kanouse DE, Collings RL, Mil A. Fertility desires and intentions of HIV positive men and women. *Fam Plann Perspect* 2001;33:144–152, 165.
20. Forsyth A, Coates T, Grinstead O, et al. HIV infection and pregnancy status among adults attending voluntary counselling and testing in 2 developing countries. *Am J Public Health* 2002;92:1795–1800.
21. International Planned Parenthood Federation (IPPF) and Global Network of People living with HIV (GNP+). *Fulfilling fatherhood. Experiences from HIV positive fathers.* London: 2005.
22. UNAIDS. Summary of the Declaration of Commitment on HIV/AIDS. United Nations General Assembly Special Session on HIV/AIDS. 25–27 June 2001—New York: 2002.
23. WHO, Department of Reproductive Health and Research including UNDP/UNFPA/WHO/ World Bank Special Programme of Research. Reproductive health strategy to accelerate progress towards the attainment of international development goals and targets. WHO/RHR/04.8. Geneva: 2004; note 40.
24. Segurado AC, Miranda SD, Latorre MRDO, et al. Evaluation of the care of women living with HIV/AIDS in São Paulo, Brazil. *AIDS Patient Care STDs* 2003;17:85–93.
25. Paiva V, Latorre MR, Gravato N, et al. Sexuality of women living with HIV in São Paulo. *Cad Saúde Pública* 2002;18:109–118.
26. Tunala L. Fontes cotidianas de estresse entre mulheres portadoras de HIV. *Rev Saúde Pública* 2002;36 (Suppl 4):24–31.
27. Goldani MZ, Giugliani ERJ, Sacanlon T, et al. Voluntary HIV counselling and testing during prenatal care in Brazil. *Rev Saúde Pública* 2003;37:552–558.
28. INFO Project. Pesquisas com Homens: Novos Resultados. The Johns Hopkins Bloomberg School of Public Health. *Populations Reports* 2004; XXXII (2), M 18. www.bibliomed.com.br (Last accessed May 2005).
29. Ferreira I, Ferraz E, Costa N. Comportamento e intenções reprodutivas da população masculina. *Pesquisa nacional sobre demografia e saúde.* Rio: BE-MFAM 1999.
30. Forsyth B, Davis JA, Freudigman KA, Katz KH, Zelterman D. Pregnancy and birth rates among HIV-infected women in the United States: The confounding effects of illicit drug use. *AIDS* 2002;16:471–479.
31. World Health Organization/RHR. *Progress in Reproductive Health Research.* 2003;63.
32. Moyo W, Mbizvo MT. Desire for a future pregnancy among women in Zimbabwe in relation to their self-perceived risk of HIV-infection, child mortality, and spontaneous abortion. *AIDS Behav* 2004;8:9–15.
33. Nkhuda G, Pena JE, Sauer MV. Deaths of HIV-positive men in the context of assisted reproduction: Five case studies from a single center. *AIDS Patient Care STDs*, 2005;19:712–718.

34. de Bruyn M. Women living with HIV need their full reproductive rights. International Community of Women Living with HIV/AIDS (ICW). Published on 11 March 04. www.icw.org/tiki-read_article.php?articleId=75&highlight=reproductive%20rights (Last accessed May 2005).
35. Askew I, Berer M. The contribution of sexual and reproductive health services to the fight against HIV/AIDS: A review. *Reprod Health Matters* 2003; 11:51–73.
36. Sternberg P, Hubley J. Evaluating men's involvement as a strategy in sexual and reproductive health promotion. *Health Promot Int* 2004;19:389–396.
37. Hopkins K, Barbosa RM, Knauth DR, Potter J. The impact of health care providers on female sterilization among HIV-positive women in Brazil. *Soc Sci Med* 2005;61:541–554.

Address reprint requests to:

Vera Paiva, Ph.D.

Psychology Institute

University of São Paulo

PST/NEPAIDS USP

Av. Prof. Mello Moraes

1721, São Paulo

SP-05508-030

Brazil

E-mail: veroca@usp.br