



ARTIGO ORIGINAL

HETEROSEXUAL TRANSMISSION AND HUMAN SEXUALITY IN BRAZIL

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By the end of 1994, there been reported approximately 60 000 AIDS cases in Brazil and Brazil Ministry Health estimates between 600 000 to one million of HIV-infected individuals concentrated mainly in São Paulo and Rio de Janeiro¹.

HETEROSEXUAL TRANSMISSION

The Gaffrée and Guinle University Hospital, AIDS National Referral Center, is a leading and pioneering AIDS Research Center in Brazil, which has accumulated more than five thousand HIV-positive individuals since 1983.

Sexual transmission is the main category of transmission in Brazil¹. There is a decreasing trend in proportion of cases in the homosexual and bisexual risk groups, and an increasing trend in the proportion infected through heterosexual transmission.

Heterosexual transmission has been expanded since 1985, 34.1% of the cases among women and 7.2% among men (Table 1). Heterosexual contact constitutes the only category of AIDS cases in which the number of female cases exceeds the number of male cases. Since early in the epidemic more men than women have been infected and therefore can infect their female partners. These differences could reflect more efficient male-to-female transmission compared with female-to-female as well as diversity of sexual practices among sexual partners in Latin America culture more widespread than generally appreciated^{3,4}.

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Table 1

Heterosexual transmission in Brazil

≥ 15 years old	Brazil Ministry of Health cumulated data 1980-1994 n (%)	Gaffrée and Guinle University Hospital cumulated data 1988-1994 n (%)
Female-to-male	3.081 (7.2)	67 (3.9)
Male-to-female	2.543 (34.1)	362 (21.3)

We present results of the studies at the Gaffrée and Guinle University Hospital, AIDS National Referral Center, University of Rio de Janeiro in Rio de Janeiro, Brazil, which the objectives are to identify risk factors for heterosexual transmission of HIV, to compare the efficiency of male-to-female and female-to-male transmission to acknowledge patterns of sexual behavior and diversity of sexual practices in a latin american culture, to assist in the design of more effective AIDS and STD prevention programs, safer sex education campaigns and the educational messages.

Cohort study of 662 heterosexual couples comprising 662 bisexual men and their female partners (Table 2). The ages of the participants ranged from 21 to 47 years. There were no significant differences in demographic factors according to index case. Most of the index cases were asymptomatic. Both members of the couples were interviewed face-to-face individually and the contacts who were HIV seronegative were follow-up every six months. The couples were counseled about the risk of HIV infection and safer sex practices. A questionnaire was administered by the interviewer. Questions explored the risk factors, the number of sexual partners, use of condoms and sexual practices. If partner gave a different description of their sexual behavior the couple was excluded. 177 (26.7%) couples refused to inform 149 (50.3%) of the 296 (44.7%) female contacts only engaging in vaginal intercourse were found to be infected with HIV. 119 (63,0%) of the 189 (28,5%) female contacts engaging in both anal and vaginal intercourse were found to be seropositive.

There seems that women who engaged in both anal and vaginal intercourse placed themselves at double risk of HIV infection experienced by women who limited coitus to vaginal intercourse.

Male-to-female has presented a crude transmission rate of 54.6%.

Most of the Brazilian HIV-infected women have been in monogamous, stable relationship. The psychological profile has shown a low self-esteem, sexual emotion passiveness, absolute submission to male desire, affective dependence and limited self-confidence (Table 3). The psychological features observed seem to reveal a female high risk behavior that could partly explain an elevated rate of male-to-female transmission among Brazilian stable couples.

Female-to-male transmission did not occur in this small cohort study of stable heterosexual couples.

A questionnaire was administered by interviewer. Questions explored the history of risk factors, the number of sexual partners, frequency of sexual contact per week, known or estimated date of infection, regular sexual

practices, and use of condoms. If partners gave a different description of their sexual behavior, the couple was excluded. The mean interval of time between women date of HIV infection and identification of HIV through anti-HIV testing were 65.68 + SD 32.06 months for women infected by blood transfusion and 36.86 SD + 23.34 months for women infected by previously sexual contact. The mean frequency of sexual contacts per week without use of condoms were 7.7 for women infected by blood transfusion and 3.7 for women infected by previously sexual contact.

Table 2

**Male-to-female transmission
Women partners of HIV-infected
bisexual men**

Intercourse	Anti-HIV Positive, n (%) (n = 362)	Anti-HIV Negative, n (%) (n = 300)	Total n (%) (n = 662)
Vaginal only*	149 (50.3)	147 (49.7)	296 (44.7)
Anal and vaginal*	119 (63.0)	70 (37.0)	189 (28.5)
Refused to inform	94 (53.1)	83 (46.3)	177 (26.7)

* $\chi^2 = 7.42; p < .001; OR = 1.68$

Table 3

**HIV-infected women in stable couples
Psychological profile (n = 50)**

Low self-esteem
Emotional sexual passiveness
Absolute submission to male desire
Affective dependence
Limited self-confidence

Cohort study of 40 stable heterosexual couples, regular partners of HIV-infected women were tested and both members of the couples interviewed. 40 stable couples comprising 29 index women infected by blood transfusion (Table 4) and 11 HIV-positive women (Table 5) who had originally acquired their infection from other male partners but who subsequently acquired new partners.

The ages of participants ranged from 25 to 55 years. There were no significant differences in demographic factors according to the index cases. Most of the index cases were symptomatic. Both members of the couples were interviewed face-to-face individually and male seronegative partners were followed-up every six months. The couples were counseled about the risk of the HIV infection and safer sex practices.

Table 4

**Female-to-male transmission in stable
couples Women infected by blood
transfusion (n = 29)**

Time of sexual contact between transfusion and diagnosis of HIV infection without use of condoms	65.68 ± 32.06 mo.
Time of sexual contact after diagnosis of HIV infection with use of condoms	7.59 ± 12.16 mo.
Frequency of sexual contacts per week	7.7

Table 5

**Female-to-male transmission in stable
couples Women infected by sexual
contact (n = 11)**

Time of sexual contact until diagnosis of HIV infection without use of condoms	36.86 ± 23.39 mo.
Time of sexual contact after diagnosis of HIV infection with use of condoms	8.32 ± 8.05 mo.
Frequency of sexual contacts per week	3.7

The number of couples engaged in different sexual practices reduced significantly their particular sexual acts as positive results of anti-HIV testing were informed to the male steady partners (Table 6).

Other risk factors associated with risk of heterosexual transmission such as penis lesion during intercourse, lack of circumcision, disease stage and antigenemia have been evaluated (Table 7).

Female-to-male transmission did not occur in this small cohort study of stable heterosexual couples (Table 8). Present results are difficult to generalize because we observed only 40 couples with women as infected index cases from 1988 to

1994. The small sample size may be a reflection of the relatively small number of infected women compared with infected men.

There is a continuing traditional medical and scientific silence on human sexuality which is so taboo that few care or dare to

Low rate of female-to-male transmission compared with high rate of male-to-female transmission (Table 9) may be express a relatively early

Table 6

**Female-to-male transmission
Number of couples engaged in different sexual practices
Before anti-HIV test After anti-HIV test**

Sexual practices (risk factors)	Women infected by sexual contact (n = 11) n (%)	Women infected by blood transmission (n = 29) n (%)	Women infected by sexual contact (n = 11) n (%)	Women infected by blood transfusion (n = 29) n (%)
Oral-oral	10 (90.9)	28 (96.5)	8 (72.7)	14 (48.2)
Oral-genital	8 (72.7)	14 (48.2)	5 (44.4)	4 (13.7)
Vaginal intercourse	11 (100)	29 (100)	10 (90.9)	16 (55.1)
Vaginal intercourse during menstruation	8 (72.7)	11 (37.9)	2 (18.2)	—
Anal intercourse	7 (63.6)	13 (44.8)	4 (36.4)	2 (6.8)

Table 7

Female-to-male transmission

Other risk factors	Women infected by blood transfusion, n (%)	Women infected by sexual contact, n (%)
Penis lesion during intercourse	4 (13.7)	6 (54.5)
Partner without circumcision	23 (79.3)	9 (81.8)
CDC criteria		
II	6 (20.6)	6 (54.5)
III	3 (10.3)	—
IV	20 (68.9)	5 (45.4)
Antigenemia P24/total		
Reactive	11 (57.8)	—
Non-reactive	8 (42.1)	11 (100)

Table 8

Female-to-male transmission in stable couples 40 males partners of HIV-infected women

Risk situation	Anti-HIV		Antigenemia (Total and P24)	
	Reactive n (%)	Non-reactive n (%)	Reactive n (%)	Non-reactive n (%)
Male partners of female infected by blood transfusion	—	29 (100)	—	29 (100)
Male partners of female infected by sexual transmission	—	11 (100)	—	11 (100)

phase of the epidemic among the heterosexuals or may be attributed to the lesser risk insertive partners face compared to receptive partners, though some of the alleged heterosexual males may have lacked frankness about same-gender sexual contacts.

Table 9

Crude transmission rate

Transmission	HIV-infected, partners, n	Rates, %
Female-to-male (steady partners) n = 40	0	0
Male-to-female (bisexual men) n = 662	362	54

Although too few data exist to say with certainty that heterosexual man are less susceptible than women to HIV infection through penile-vaginal contact, the husbands of Saudi Arabian women infected by the blood transfusion have remained seronegative for several years³.

HUMAN SEXUALITY IN BRAZIL

There is a continuing traditional medical and scientific silence on human sexuality which is so taboo that few care or dare to. Most health care professionals and researchers feel uncomfortable asking sexual questions. As members of our culture, and shaped by it, they are reluctant to press questions they think may embarrass patients, who are ill at ease with the topic³.

Human sexuality has been studied in the Anonymous Counseling and Testing Site at the Gaffrée and Guinle

University Hospital, Rio de Janeiro, Brazil, from 1990 to 1994.

Table 10 presents age and gender distribution in a cohort of 628 individuals. They were interviewed face-to-face individually, counseled about risk of HIV infection and safer sex practices, and HIV-antibody testing performed where appropriated. A questionnaire concerning sexuality was administered by the interviewer. Questions explores sexual orientation, sexual behavior, number of partners, IVDU, extra-marital contacts, contacts with prostitutes and prostitution, feelings toward sexual partners and use of condoms.

A questionnaire concerning sexuality was administered by the interviewer.

Male bisexual behavior comprises a marked multiplicity of sexual partners, sexual contacts with prostitutes and group sex. They engage very often in multiple high risk practices that could explain the high rate of male-to-female transmission in Brazil (Table 13).

Table 10

**Human sexuality in Brazil
Age distribution (n = 628)**

Age, y	Women (n = 263) n (%)	Men (n = 365) n (%)
10-14	1 (0.4)	2 (0.5)
15-19	15 (5.7)	24 (6.6)
20-30	123 (46.7)	189 (52)
41-50	35 (13.4)	32 (8.7)
51-60	13 (4.5)	17 (4.6)
> 60	2 (0.8)	14 (3.8)

The sexual orientation according to the gender in 628 individuals studied is shown in Table 11.

Table 11

Human sexuality in Brazil (n = 628)

Sexual orientation	Women (n = 263) n (%)	Men (n = 365) n (%)
Heterosexual	256 (97.3)	202 (55.3)
Bisexual	6 (2.3)	92 (25.2)
Homosexual	1 (0.4)	71 (19.5)

Male heterosexual behavior comprises multiplicity of sexual partners, sexual contacts with prostitutes and group sex which are high practices that could also justify an increasing trend in males infected through heterosexual transmission (Table 12).

Table 12

**Human sexuality in Brazil
Male heterosexual behavior (n = 202)**

One female partner	62 (30.6)
Multiple female partners	61 (30.1)
Multiple female partners and sexual	50 (24.7)
Collective sexual practices	16 (7.9)
Sexual contact with prostitutes	13 (6.4)

Table 13

**Human sexuality in Brazil
Male bisexual behavior (n = 92)**

With only one female and male partner	42 (45.6)
Multiple female partners	21 (22.8)
Sexual contact with female prostitutes	14 (15.2)
Multiple female partners + sexual contact with female and male prostitutes + collective sexual practices	5 (5.4)
Sexual contact with female and male prostitutes	3 (3.2)
With collective sexual practices	3 (3.2)
Multiple female partners + collective sexual practices	2 (2.1)
Sexual contact with female prostitutes + collective sexual practices	2 (2.1)

Male homosexual behavior^{5,6} comprises multiplicity of sexual partners, prostitution, group sex, and minority (12.6%) with one steady partner (Table 14).

Table 14

**Human sexuality in Brazil
Male heterosexual behavior (n = 71)**

Multiple partners	44 (61.9)
Prostitutes and collective sexual practices	11 (15.4)
One stable partner	9 (12.6)
Collective sexual practices	7 (9.8)

Female feelings and awareness toward male sexual partners are presented in Table 15.

Table 15

**Female feelings and awareness towards
Male sexual partners (n = 196*)**

Promiscuity of heterosexual partner	89 (45.4)
Suspected bisexual partner	33 (16.8)
Known bisexual partner	21 (10.8)
Suspicion of spouse's extra-marital contacts	35 (17.8)
Suspicion of sexual partners contact with prostitutes	18 (9.2)

*Excluded non-behavior risk situation (n = 67) (blood transfusion, pregnancy, pre-operative, household contacts, healthcare workers, HIV test confirmation).

Sexual behavior of 206 women and 256 men are shown in Table 16.

Heterosexual transmission of HIV may reflect latin american sexual practices and culture.

The use of condoms were evaluated in 263 women and 365 men (Table 17). Most of the individuals studied rarely or never used condoms. Systematic use of condoms has been observed in only 12.2% of women and 23.35% of men.

women and 7.2% among men. Heterosexual contact constitute the only risk category of AIDS cases in which the number of female cases exceeds the number of male cases.

Since early in the epidemic more men than women have been infected and therefore can infect their female partners.

These differences can reflect more efficient male-to-female transmission compared with female-to-male as well diversity of sexual practices among heterosexual partners in latin american culture more widespread than generally observed.

Group sex, heterosexual anorectal intercourse, bisexuality, lack of fidelity female low self-esteem, risk-averse facet, complete submission to male desire, multiple sexual partners, unprotected sexual contacts are the main components of the male-to-female ratio 6 to 1 in Brazil.

Heterosexual transmission of HIV may reflect latin american sexual practices and culture. It is of importance to acknowledge real human sexuality to design adequate educational program that could impact on the epidemic. Health care providers should be alert to the diverse behavior of both women and men which can be AIDS hot spots.

Key words: Heterosexual transmission, group sex, human sexuality, anal sex.

RESUMO E CONCLUSÕES

Ao final de 1994, haviam sido relatados aproximadamente 60 mil casos de AIDS no Brasil e o Ministério da Saúde estimou a existência entre 600 mil a um milhão de casos de indivíduos infectados pelo HIV, principalmente concentrados em São Paulo e Rio de Janeiro. O Hospital Universitário Gaffrée e Guinle, Centro Nacional de Referência em AIDS, no Rio de Janeiro, e que, para o Brasil, é um Centro de Pesquisa em AIDS pioneiro e líder na América do Sul, já acumulou mais de cinco mil indivíduos HIV-positivos desde 1983.

A transmissão sexual é a principal categoria de transmissão no Brasil. A transmissão heterossexual vem se expandindo desde 1985, 34,1% dos casos entre mulheres e 7,2% entre homens. O contato heterossexual constitui a única categoria de risco de casos de AIDS, na qual o número de casos femininos excede o de masculinos. Desde o início da epidemia, mais homens do que mulheres foram infectados e, portanto, podem infectar as suas parceiras femininas.

Estas diferenças refletem uma transmissão mais eficiente do homem para a mulher comparada com a da mulher para o homem, como também a diversidade de práticas sexuais entre parceiros heterossexuais na cultura latino-americana muito mais disseminada do que geralmente assinalado.

Sexo em grupo, intercurso anorretal, bissexualidade, falta de fidelidade, baixa estima feminina, faceta de aversão ao risco, completa submissão ao desejo do parceiro masculino, múltiplas parcerias sexuais e os contatos sexuais sem proteção são os

Table 16

Risk situation*

Sexual behavior	Women (n = 206) n (%)	Men (n = 251) n (%)
Multiple partners	74 (36)	47 (18.7)
Sexual partner of HIV infected	65 (31.6)	116 (46.2)
Sexual partner of IVDU	31 (15)	33 (13.1)
Extra-marital sexual contact	15 (7.3)	33 (13.1)
Collective sexual practices	11 (5.3)	36 (14.4)
Prostitution	10 (4.8)	5 (2.0)

*Excluded non-behavioral risk situation. Women = 57, men = 114 (blood transfusion, pregnancy, pré-operative household contacts, healthcare workers, HIV test confirmation).

Table 17

Human sexuality in Brazil Safer Sex

Use of condoms	Women (n = 263) n (%)	Men (n = 365) n (%)
Sexual abstinence	33 (12.5)	22 (6.0)
Almost always	24 (9.2)	54 (14.8)
Always	32 (12.2)	85 (23.3)
Rarely	39 (14.8)	59 (16.2)
Never	135 (51.3)	145 (39.7)

It is of importance to acknowledge real human sexuality as major component in the epidemic to understand the sexual spread of HIV in Brazil and to design adequate educational program that could impact on the epidemic, reducing the spread of HIV in Brazil and other Latin America countries.

SUMMARY AND CONCLUSIONS

At the end of 1994, there will be reported approximately 60 000 AIDS cases in Brazil and Brazil Ministry of Health estimates between 600 000 to one million cases of HIV-infected individuals mainly concentrated in São Paulo and Rio de Janeiro. The Gaffrée and Guinle University Hospital, National AIDS Referral Center, Rio de Janeiro, Brazil, is a leading and pioneering AIDS Research Center in South America, which has accumulated more than five thousand HIV-positive individuals since 1983.

Sexual transmission is the main category of transmission in Brazil. Heterosexual transmission has been expanded since 1985. 34.1% of these cases among

principais componentes de uma relação homem-mulher de 6:1 no Brasil.

A transmissão heterossexual do HIV pode ser reflexo das práticas sexuais latino-americanas e sua cultura. É importante reconhecer a sexualidade humana verdadeira para se estabelecer um programa educacional adequado, que possibilite influenciar no rumo da epidemia. Os profissionais de saúde devem ficar alertas para comportamentos diversificados tanto de homens e mulheres que podem ser os pontos quentes da AIDS.

Unitermos: Transmissão heterossexual, sexo em grupo, sexo anal, sexualidade humana.

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