

## HIV/AIDS

# Disclosure of HIV status to sex partners and sexual risk behaviours among HIV-positive men and women, Cape Town, South Africa

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**Background:** The HIV epidemic continues to amplify in southern Africa and there is a growing need for HIV prevention interventions among people who have tested HIV positive.

**Methods:** Anonymous surveys were completed by 413 HIV-positive men and 641 HIV-positive women sampled from HIV/AIDS services; 73% were <35 years old, 70% Black African, 70% unemployed, 75% unmarried, and 50% taking antiretroviral treatment.

**Results:** Among the 903 (85%) participants who were currently sexually active, 378 (42%) had sex with a person to whom they had not disclosed their HIV status in the previous 3 months. Participants who had not disclosed their HIV status to their sex partners were considerably more likely to have multiple partners, HIV-negative partners, partners of unknown HIV status and unprotected intercourse with non-concordant sex partners. Not disclosing their HIV status to partners was also associated with having lost a job or a place to stay because of being HIV positive and feeling less able to disclose to partners.

**Conclusions:** HIV-related stigma and discrimination are associated with not disclosing HIV status to sex partners, and non-disclosure is closely associated with HIV transmission risk behaviours. Interventions are needed in South Africa to reduce the AIDS stigma and discrimination and to assist people with HIV to make effective decisions on disclosure.

HIV/AIDS is ravaging sub-Saharan Africa, with >60% of all HIV infections in the world occurring in this region.<sup>1,2</sup> Although most of the HIV-infected people in southern Africa have not been tested for HIV and do not know that they are HIV positive, uptake of HIV testing is increasing as antiretroviral (ARV) treatment becomes available. To date, few empirical studies have examined the sexual relationships and sexual behaviours of people living with HIV/AIDS (PLWHA) in Africa. In a study from Uganda, 47% of HIV-positive men and 21% of HIV-positive women were sexually active before initiating ARV treatment, with 45% of these people reporting unprotected intercourse in a 3-month period.<sup>3</sup> Although condom use has increased over the past 2 years among people living with HIV in South Africa,<sup>2,4</sup> one in three HIV-positive South Africans report that their most recent intercourse occasion was unprotected,<sup>2</sup> a finding that mirrors other studies in Africa<sup>5,6</sup> and elsewhere.<sup>7–10</sup>

Not disclosing HIV status to sex partners is probably the product of multiple factors.<sup>11</sup> Some people living with HIV infection may generally conceal their HIV status from people in their lives, not just their sex partners. In addition, people who do not disclose their HIV status may have had adverse experiences related to previous disclosures, including loss of social support, loss of employment, violent reactions and other forms of discrimination. Finally, people who fail to disclose their HIV status may merely lack a sense of efficacy for being able to effectively disclose their HIV status, especially to their sex partners. The purpose of this study was to examine factors related to HIV disclosure to sex partners among PLWHA in South Africa.

## METHODS

### Participants

Surveys were completed by 414 HIV-positive men and 641 HIV-positive women. Participants were sampled from multiple

sources that provide social and health services to PLWHA in Cape Town, South Africa (table 1).

### Measures

Measures were administered in a seven-page anonymous survey in three languages: Xhosa, English and Afrikaans.

### Demographics, health and HIV risk history

In addition to demographic characteristics and HIV-related health status, we assessed the behavioural history for risks of HIV transmission. Participants were asked if they had ever been diagnosed with a sexually transmitted infection other than HIV, whether they had received or given money or a place to stay in exchange for sex, and whether they had ever injected drugs or had an injecting drug user as a sex partner. We also asked men whether they typically have sex with men.

### Disclosure of HIV status and discrimination

Participants reported the number of sex partners they had in the previous 3 months to whom they did not disclose their HIV status. To assess general HIV concealment, we asked participants whether they hide their HIV status from others, whether there are people they have not told about their HIV status because they feared their reaction, whether they had talked with a friend about their HIV, and whether they find it difficult to tell people about their HIV status. To assess experiences of discrimination, we asked participants whether they had been treated differently after disclosing their HIV status to friends and family, whether being HIV positive had caused them to lose their jobs or a place to stay and whether they had experienced discrimination because they are HIV positive. Finally, to assess the efficacy for disclosing HIV status to sex partners, we asked participants whether they were certain that they could tell their

**Abbreviations:** ARV, antiretroviral; PLWHA, people living with HIV/AIDS.

**Table 1** Demographic and health characteristics, sexual behaviours and substance use in the previous 3 months reported by men and women living with HIV/AIDS

	Men (n=414)		Women (n=641)		OR	95% CI
	n	%	n	%		
Age (years)						
≤20 (reference)	37	9	42	7		
21–25	100	24	125	20		
26–35	163	40	295	46		
≥36	113	27	179	27	1.1	0.9 to 1.2
Race						
Black African (reference)	263	64	448	71		
White	27	7	19	3		
Coloured	65	16	92	14		
Indian	52	13	74	12	0.9	0.8 to 1.0
Employed	123	30	176	28	1.1	0.8 to 1.4
Has children	232	56	513	80	0.3**	0.2 to 0.4
Married	98	25	182	30	0.8	0.6 to 1.0
Taking ARVs	215	52	297	48	1.2	0.9 to 1.6
HIV-related hospitalisations						
Not hospitalised (reference)	182	44	340	53		
One hospitalisation	101	25	113	18		
Two or more hospitalisations	130	31	188	29	1.0	0.9 to 1.1
HIV risk history						
Has had an STI	258	61	356	56	1.3	1.0 to 1.6
Received money for sex	46	11	65	10	1.1	0.7 to 1.6
Gave money for sex	61	15	37	6	2.7**	1.8 to 4.2
IDU	56	13	25	4	3.8**	2.3 to 6.2
IDU sex partner	60	14	50	8	1.9**	1.3 to 2.9
Men who typically have sex with men	78	18	n/a			
Sexual behaviour						
Any sex partner	377	90	526	81	1.9**	1.4 to 2.8
HIV-positive partners	295	70	356	55	1.9**	1.5 to 2.5
HIV-negative partners	210	50	204	32	2.2**	1.6 to 2.7
Partners of unknown HIV status	164	39	251	39	1.0	0.7 to 1.3
Number of partners						
0 (reference)	46	10	115	19		
1	208	49	412	64		
2	64	15	44	7		
>3	105	25	70	11	1.7**	1.5 to 1.9
Unprotected vaginal intercourse						
Concordant partners	152	36	230	36	1.0	0.8 to 1.3
Non-concordant partners	97	23	164	25	0.9	0.6 to 1.2
Unprotected anal intercourse						
Concordant partners	109	26	101	16	1.9**	1.3 to 2.5
Non-concordant partners	87	21	69	11	2.2**	1.5 to 3.1
Substance use						
Alcohol	268	64	277	43	2.3**	1.8 to 3.0
Dagga	118	28	63	10	3.6**	2.5 to 5.0
Methamphetamine (Tik)	66	16	48	8	2.3**	1.6 to 3.4
Mandrax	47	11	27	4	2.8**	1.8 to 4.7
	M	SD	M	SD		
Years since testing HIV positive	2.7	2.5	2.7	2.3	1.0	0.9 to 1.1
HIV symptoms	6.1	3.6	6.7	3.8	1.0	0.9 to 1.0

ARVs, antiretrovirals; IDU, injection drug use; STI, sexually transmitted infection.

\*p<0.05.

\*\*p<0.01.

sex partners that they are HIV positive. All of these items were responded to dichotomously, either a yes or a no.

### Substance use

Participants reported their use of alcohol, cannabis (dagga), methamphetamine (Tik), cocaine, methaqualone (Mandrax) or any injected drug in the previous 3 months.

### Sexual behaviours

Participants reported the number of sex partners they had in the previous 3 months, followed by a breakdown of the number of partners who were HIV positive (concordant), HIV negative (non-concordant) and the number whose HIV status was not known. Participants were then asked to recall the number of times they had engaged in vaginal intercourse with

HIV-positive partners and the number of times with partners who were not HIV positive. Responses were collected separately for intercourse with and without condoms. The same format was used for collecting rates of protected and unprotected anal intercourse. Numerical response formats reduce arbitrary anchor biases that can occur with lower and upper bound numerical rating scales.<sup>12</sup> We also computed the proportion of intercourse occasions that were protected by condoms using the formula: frequency of intercourse with condoms/total frequency of intercourse.

### Procedures

The survey was developed from measures used in previous research conducted in South Africa<sup>13-15</sup> and the US.<sup>16</sup> Initial drafts of the survey were pilot tested with HIV-positive volunteers in Cape Town. Survey venues were selected based on known supportive services (eg support groups, 38%), treatment services (eg clinics, 39%) and by word-of-mouth (chain) recruitment (23%). Surveys were carried out by 11 trained, racially and ethnically diverse field workers. The measures were self-administered, with <5% of participants requiring help in reading the survey items. Participants were offered 20 South African Rand (US\$3) after they completed the survey. Participants were not told about the cash reimbursement until after returning the survey to avoid participation coercion and response bias. No potential participants refused to take the survey. Of the 1055 people who accepted the survey, 21 (2%) were <75% complete, representing an overall completion rate of 98%.

### Data analyses

Three sets of analyses were conducted. Firstly, we compared the demographic, health, risk history and behavioural characteristics between HIV-positive men and women. Secondly, we focused only on the 903 (84%) participants who were currently sexually active. Participants who had not disclosed their HIV status to sex partners in the previous 3 months ( $n = 378$ ) were compared with those who had disclosed to partners ( $n = 525$ ). Disclosure to partners was the dependent variable in the main logistic regression analyses. Finally, we examined: the tendency to generally conceal HIV status from others; HIV-related experiences of discrimination; and sense of efficacy among people who had not and those who had disclosed their HIV status to sex partners. All analyses were performed using logistic regression with 95% confidence intervals. Comparisons of people who had and had not disclosed their HIV status to sex partners were controlled for sex, race and marital status.

## RESULTS

In all, 73% of the sample was <35 years old and most of the participants consisted of black Africans, although there was racial diversity, with about 30% of participants self-identifying as white, coloured or Indian. About 70% of participants were unemployed, and nearly 75% were not currently married. Participants were relatively recently diagnosed HIV positive, with the average person receiving their HIV diagnosis approximately 2½ years earlier. In terms of their health status, nearly half of the sample had been hospitalised at least once for an HIV-related problem, and half of the sample was taking ARVs. All participants reported having physical symptoms associated with HIV infection, with an average of six current symptoms experienced. For HIV risk history, most of the sample had been diagnosed with a sexually transmitted infection other than HIV, and between 10% and 20% reported various other markers for history of HIV transmission risks. Men were considerably more likely to have given someone money or a place to stay in exchange for sex, and were more likely to have been involved

with injection drugs. Table 1 shows the demographic, health and risk history characteristics of men and women living with HIV.

In all, 90% men and 81% of women reported being sexually active in the previous 3 months. For the entire sample, 40% of men and 18% of women had two or more sex partners during that time (table 1). Most of the participants had HIV-positive partners. However, 50% of men and 32% of women reported having HIV-negative partners, and 39% of both men and women had sex partners whose HIV status they did not know. For each category of partner status, men reported more sex partners than women. Unprotected vaginal and unprotected anal intercourse with HIV concordant and HIV non-concordant sex partners was reported by both men and women. Men were more likely than women to have unprotected anal intercourse with concordant and non-concordant partners. Substance use was also common in the sample, with 51% of participants reporting recent alcohol use, 17% using dagga and 11% using methamphetamine in the previous 3 months; more men reported using each substance than women did.

### HIV status disclosure and sexual behaviour

Among the 903 participants who were currently sexually active, 378 (42%) indicated that they had had sex with a person they had not disclosed their HIV status to in the previous 3 months. Participants who had not disclosed to sex partners were significantly more likely to be married and were slightly more likely to identify their race as coloured (table 2).

We found a close association between having not disclosed HIV status to sex partners and engaging in practices with high risk of HIV transmission (table 3). People who had not disclosed their HIV status to partners reported more sex partners in each HIV status category and reported more unprotected vaginal and anal intercourse than people who had disclosed. Differences were most pronounced, however, for sexual behaviours involving non-concordant partners. Those who had not disclosed to a partner were nearly six times as likely to have sex partners whose HIV status was known to be HIV negative, and nearly 28 times more likely to have partners whose HIV status was not known. Risks of exposure to HIV occurred in these sexual encounters, with 55% of people who did not disclose their HIV status indicating that they had unprotected vaginal intercourse and 38% indicating that they had unprotected anal intercourse with their non-concordant partners. Unprotected vaginal and anal intercourse was far less common for participants who had disclosed their status to all of their recent sex partners, including unprotected acts with both concordant and non-concordant partners.

### Disclosure of HIV status and HIV-related discrimination

Analyses showed that participants often reported efforts to conceal their HIV status from others. Most of the participants endorsed all four items assessing concealment of their HIV status behaviours. Analyses controlling for participants' sex, race and marital status found that not having talked with friends about their HIV status and not having told others about their HIV-positive status because they feared potential adverse reactions were significantly related to not disclosing HIV status to sex partners. In addition, those who had not disclosed their HIV status to sex partners were significantly more likely to have experienced discrimination related to their HIV status and more than twice as likely to have lost a job or a place to stay because they are HIV positive. Finally, people who had not disclosed to partners were significantly less likely to state that they were certain they can tell their sex partners that they are HIV positive (table 4)

**Table 2** Demographic and health characteristics of sexually active people living with HIV/AIDS who disclosed their HIV status to all their sex partners in the previous 3 months and those who did not disclose to all partners

	Disclosed to all sex partners (n = 525)		Had sex with a partner not disclosed to (n = 378)		OR	95% CI
	n	%	n	%		
Men	209	40	168	44	0.8	0.6 to 1.1
Women	316	60	210	56		
Age (years)					0.9	0.8 to 1.0
≤ 20 (reference)	30	6	40	11		
21–25	112	21	86	23		
26–35	250	48	148	37		
≥ 36	131	25	97	29		
Race					1.2*	1.1 to 1.4
Black African (reference)	376	73	225	62		
White	20	4	22	6		
Coloured	59	12	74	20		
Indian	57	11	44	12		
Married	66	26	295	49	2.7**	1.9 to 3.7
Years since testing HIV positive	M	SD	M	SD	1.0	0.9 to 1.0
	2.8	2.3	2.7	2.5		

\*p&lt;0.05.

\*\*p&lt;0.01.

A multivariate logistic regression entered having disclosed HIV status to sex partners as the dependent variable and included all the concealment, discrimination and efficacy items that significantly differentiated the groups in the crude analyses, again controlling for participants' sex, race and

marital status. Results of the multivariate model showed that not disclosing HIV status to sex partners was associated with having lost a job or place to stay in relation to being HIV positive and having a lower sense of efficacy for disclosing to sex partners (table 4).

**Table 3** Sexual behaviours among sexually active people living with HIV/AIDS who disclosed their HIV status to their sex partners and those who did not disclose to all partners

	Disclosed to all partners (n = 525)		Had sex with a partner not disclosed to (n = 378)		OR	95% CI
	n	%	n	%		
HIV-positive partners	350	67	301	79	1.9**	1.4 to 2.7
HIV-negative partners	145	28	265	69	5.9**	4.2 to 8.1
Partners of unknown HIV status	87	17	326	85	27.9**	18.8 to 41.6
Any non-concordant partners	212	40	347	91	15.0**	9.8 to 22.9
Number of sex partners					1.8**	1.5 to 2.1
1 (reference)	408	78	215	56		
2	66	13	43	39		
>3	52	10	124	33		
Unprotected vaginal intercourse					4.7**	3.3 to 6.5
Concordant partners	148	28	233	61		
Non-concordant partners	51	10	210	55	12.7**	8.6 to 18.7
Unprotected anal intercourse					4.1**	2.8 to 5.9
Concordant partners	62	12	148	39		
Non-concordant partners	12	2	144	38	21.6**	11.6 to 40.3
	M	SD	M	SD		
Concordant partners					1.1**	1.1 to 1.2
Unprotected intercourse	2.5	8.4	4.9	8.6		
% Condom use	80.1	30	51.3	30	0.05**	0.02 to 0.09
Non-concordant partners					1.1**	1.1 to 1.2
Unprotected intercourse	1.1	7.5	4.4	11.4		
% Condom use	75.1	39.4	46.4	31.2	0.1**	0.05 to 0.21

Odds ratios adjusted for sex, race and marital status.

\*p&lt;0.05.

\*\*p&lt;0.01.

**Table 4** Disclosure and history of discrimination among sexually active people living with HIV/AIDS who disclosed their HIV status to all their sex partners in the previous 3 months and those who did not disclose to all partners

	Disclosed to all partners (n = 525)		Had sex with a partner not disclosed to (n = 378)		Crude OR	Adjusted OR	95% CI
	n	%	n	%			
<b>Concealing HIV status</b>							
It is difficult to tell people about my HIV infection	355	64	236	63	1.0		
I hide my HIV status from others	286	55	196	53	1.1		
I have spoken to a friend about AIDS	414	79	267	70	0.7**	0.7	0.5 to 1.0
There are people I have not told I am HIV positive because I am afraid of their reaction	298	57	243	65	1.4**	1.2	0.9 to 1.6
<b>HIV-related discrimination</b>							
I was treated differently by my friends and family once they found out I have HIV	199	37	136	36	0.8		
My HIV status has caused me to lose a job or a place to stay	78	15	118	31	2.3**	2.2**	1.5 to 3.2
I have experienced discrimination because I am HIV positive	195	37	190	51	1.5**	1.2	0.9 to 1.7
<b>Efficacy for disclosing to sex partners</b>							
I am certain I can tell my sex partners that I have HIV	393	75	245	65	0.6**	0.6*	0.5 to 0.9

All odds ratios adjusted for sex, race and marital status. Adjusted odds ratios control for all variables entered in multivariate model.

\*p<0.05.

\*\*p<0.01.

## DISCUSSION

Sexual transmission risk behaviours were reported mostly in people who had not disclosed their HIV status to sex partners. The relationship between engaging in unprotected intercourse and not disclosing HIV status to partners was most apparent when partners were of unknown HIV status. Specifically, people who had not disclosed their HIV status to all sex partners were 28 times more likely to have sex partners whose HIV status was unknown. This finding shows that HIV transmission risks for many HIV-positive South Africans occur in the context of mutual unawareness of partner's HIV status; the practice of not asking and not telling.<sup>17</sup> However, not disclosing HIV status to sex partners was part of a larger social context that entails concealment of HIV status and discrimination against people with HIV/AIDS. Although declining somewhat over the past few years,<sup>2</sup> the levels of stigma and discrimination against people with HIV/AIDS still remains high in South Africa,<sup>13-14</sup> especially in some communities least affected by HIV/AIDS.<sup>18</sup> Previous experience of having lost a job or a place to stay because of HIV-related discrimination was the single strongest independent predictor of not having disclosed HIV status to sex partners. A lack of personal efficacy for disclosing HIV status to partners also emerged as a unique and independent predictor of not having disclosed to sex partners. Disclosure of HIV status to sex partners is therefore less likely to occur when a person has experienced adverse outcomes from previous disclosures.

The current findings should, however, be interpreted in the light of the methodological limitations of the study. Firstly, we used a dichotomous measure of status disclosure of HIV that does not fully capture the complexity of the issues and circumstances of disclosure to sex partners. People who fully disclose their HIV status to sex partners probably differ from those who disclose to only some partners. For example, Hart *et al*<sup>19</sup> found that both always disclosing and never disclosing to sex partners were associated with greater protective behaviours than was selective disclosure. Also, factors beyond merely disclosing HIV status, particularly discussing safer sex behaviours, are important in reducing risk regardless of disclosure of HIV status.<sup>8</sup> Future studies on disclosure of HIV status in southern Africa should examine a broader range of behaviours of HIV disclosure.

Another limitation of the study was that the research was conducted in Cape Town, South Africa, a city with greater racial diversity and more economic resources than other cities and regions in South Africa. The study is also limited by our use of targeted, convenient sampling procedures. We also relied entirely on self-reported data within the constraints of a brief and anonymous survey. Finally, the sampling strategy relied on self-reported HIV status among people attending the targeted service and community venues. With these limitations in mind, we conclude that our findings have implications for interventions with PLWHA in southern Africa.

Given the high rate of unprotected intercourse with non-concordant partners, our results suggest the need for behavioural interventions to reduce the risks of HIV transmission among men and women living with HIV in South Africa. Participants who had not disclosed their HIV status to partners reported a lower sense of efficacy for being able to disclose their HIV status to partners, suggesting the potential benefits of skills-focused interventions. Interventions developed for people living with HIV in the US have concentrated on skills for deciding whether to disclose HIV status to sex partners as central to practising safer sex.<sup>20-22</sup> Protecting partners by 100% condom use and other safer sex behaviours regardless of decisions on disclosure should be the focus of HIV prevention for PLWHA. Decisions to disclose HIV status should be made

## Key messages

- A significant minority (42%) of HIV-positive men and women surveyed in Cape Town, South Africa, report having recent sex partners to whom they had not disclosed their HIV status
- Not disclosing HIV status to sex partners among HIV-positive people in Cape Town, South Africa, is associated with previous HIV/AIDS-related experiences of discrimination
- Effective HIV prevention for HIV-positive people in southern Africa will require reversing HIV/AIDS-related stigmas and discriminatory practices

when risks of adverse outcomes are minimal, including potential abandonment and violence, and when social safety nets are in place. In this study, having not disclosed to all partners was predicted by having experienced AIDS-related discrimination, and not disclosing HIV status was closely associated with unprotected sex with non-concordant partners. As increasing numbers of South Africans are tested for HIV, the need for interventions to assist them to make effective decisions on disclosure and safer sex practices will become increasingly urgent.

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