

EXPLORING HIV RISK PERCEPTION IN A CONTEXT OF ANTIRETROVIRAL TREATMENT



**RESULTS FROM A HOUSEHOLD SURVEY
SEPTEMBER 2003 TO MARCH 2004**

**KHAYELITSHA
Cape Town**

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Acknowledgements

This survey was only made possible through the collective work of many people. First and foremost the interviewers: Sheila Cishe; Nomonde Mahote; Notembezonke Maseko; Nonthuthuzelo Mvana; Litha Ngwayi; Phumzile Nywagi, Monwabisi Maqogi and their coordinator Nkosinathi Sohaba. They patiently worked their way through each section of Khayelitsha for 6 months, often giving time to listen, answer questions and share experiences at the end of the interviews. We would also like to thank the participants who gave of their time and were willing to talk on private and often painful matters.

Introduction

HIV has attracted more political and financial attention than any other infectious disease in recent years, yet efforts to prevent further infection have mostly been ineffective. This is nowhere more obvious than in sub-Saharan Africa, which accounts for almost two-thirds of the 40.3 million people living with HIV and over three-quarters of the 3.1 million AIDS deaths world-wide.ⁱ

South Africa continues to have the highest absolute number of people living with HIV/AIDS in the world with over 5.5 million people infected.ⁱⁱ In 2003 the national antenatal prevalence reached 25%ⁱⁱⁱ rising to 29.5% today.^{iv} 456 700 adult deaths were officially notified in 2003, a 40% rise in mortality within five years. Deaths among people aged 15 and over increased by 62% between 1997 and 2002, with AIDS believed to be largely responsible for this trend.^v

There have been numerous awareness campaigns, and large sums of money spent on prevention in South Africa over the last decade. Several surveys have shown that the majority of people interviewed know about HIV, sexual transmission and the protective benefits of using condoms.^{vi vii viii ix} However, this knowledge has not translated into a reduction of new HIV infections; on the contrary national HIV prevalence has risen from less than 1% in 1990 to almost 25% within 10 years. For prevention messages to be effective, it is critical that factors influencing risk perception in relation to HIV are well understood. Awareness campaigns are undermined in places where misconceptions continue to circulate. Efforts to promote voluntary counseling and testing have also to battle against stigma and fear of the result. Condoms will only be used if people feel the risk of being infected is high enough on the list of competing daily risks of being alive.

HIV/AIDS in Khayelisha

Khayelitsha, on the outskirts of Cape Town, has a population of approximately 450,000 people. Many people come from rural areas, principally the Eastern Cape to settle in Khayelitsha, keeping strong links with their places of origin. Unemployment is high, running at around 70%, and most people are living in abject poverty. HIV seroprevalence in the two public-sector antenatal clinics rose from 15 % in 1999 to 25% in 2003. Health services are delivered by the state, but are understaffed and sub-optimally funded and managed.

The first programme in South Africa to prevent the transmission of HIV from mother-to-child (PMTCT) was initiated in Khayelitsha by the provincial government in 1999. Dedicated HIV clinics were established in April 2000 by the provincial government and MSF, and the first patients were started on antiretroviral therapy (ART) the following year. The initial aim of the programme was to establish the effectiveness, feasibility, and acceptability of providing ART in a resource poor, primary health care setting. By the end of 2003, more than 1,500 people were on ART.

Awareness of HIV as a public health problem has been slow to develop, even within health services, and the PMTCT programme was crucial in increasing awareness among health staff. A local activist group, the Treatment Action Campaign (TAC), was established in Cape Town in 1998. TAC works at the community and national level to improve knowledge about HIV and encourage people to know their status, and has been pushing the government to increase the availability of treatment and care. Currently, there are over 300 TAC members in Khayelitsha.

In order to better understand people's knowledge and attitudes towards HIV/AIDS in the setting where it is implementing HIV programmes, Médecins Sans Frontières and the Infectious Disease Unit of UCT carried out a household survey in Khayelitsha township, Western Cape, in 2003.

Survey methodology

Survey preparation and conduct

The survey was conducted over 6 months from September 2003 to March 2004. Focus group discussions and interviews with key informants were used to collect social, economic and cultural information to better understand the context.^{x xi xii} A questionnaire was designed based on the Multicentre study on factors determining differences in rate of spread of HIV in sub-Saharan Africa^{xiii} adapted and translated into the local language (isiXhosa), then piloted in the community.

Interviewers were trained on HIV, risk factors, and interview techniques and given preparation on how to respond to potential questions from participants before piloting the questionnaires. Participants were interviewed in isiXhosa by someone of the same sex. All interviewees were informed about the study objectives and invited to sign an informed consent form. Confidentiality of the information was guaranteed. Interviewers worked in groups of between 4 or 8 according to cluster size, visiting households in pairs. Group work was felt to be the best arrangement for security, while paired work in at the household level allowed for interviewing of men and women simultaneously. No security incident occurred during the 6-month survey period.

At the end of the survey 19 workshops were held at different locations in Khayelitsha, in clinics (HIV, TB, Youth Services and the Community Health Clinics) and in open areas in informal settlements. These workshops were designed to give rapid feedback to common questions and to address topics that had frequently come up during the survey. Pamphlets were handed out with the addresses and contact numbers of the different health services available in Khayelitsha, as well as updated information on HIV and TB. Over 2000 people attended these workshops.

Sample size

Sample size was calculated using data from a survey done in 2002 that estimated condom use during last sexual intercourse in Khayelitsha at 54%.^{xiv} Using an expected frequency of condom use during last sexual intercourse of 50%, a worst accepted result of 47 %, a confidence interval of 95%, a power of 80% and a design effect of 1.5 for 2 stage cluster sampling, it was calculated that a sample size of 1,600 was required, with equal distribution of men and women, and an age range of 14 - 49 years. Following a two-stage cluster sampling design Khayelitsha was divided into 622 clusters from which 80 clusters were randomly selected. Within each selected cluster ten households were selected. In the formal areas (estimated to represent around 70% of the total area) selection was done through random sampling; in the informal areas household selection was done by systematic sampling. In each household, one man and one woman aged between 14 and 49 years of age were interviewed. If more than one eligible person was present in the same household, the person with the lowest last digit of birth year was included. If an eligible person was not home the interviewer made up to two repeat visits.

Statistical analysis

All data were double entered and validated in an ACCESS database and analysed using a repeated measures logistic regression model.^{xv} A GEE model was fitted for each answer in the questionnaire. The models were fitted for men and women separately, contained an intercept term as fixed effects, and allowed for correlation of observations within clusters. Observations were weighted so that each cluster was weighted equally (SAS Institute Inc., 2004). To explore

factors influencing risk behaviour in a setting where ARV treatment is available, multivariate logistic regression models were employed to identify factors which influence condom use and VCT. Only sexually active respondents were included in these analyses. The dependent variables of interest were condom use and VCT; possible predictors included all other information recorded on the questionnaire. Some questions and possible responses were combined to avoid small numbers in categories or missing values (such as duration of relationship for respondents who were not in a relationship). The analyses of possible predictors of condom use or VCT were performed using repeated measures (GEE) logistic regression models fitted using alternating logistic regression. For each possible predictor, three models were fitted. A model with only the possible predictor as factor was used to calculate the raw odds-ratio and *p*-value; a model with the possible predictor and basic demographic information as factors was used to calculate the adjusted odds-ratios and *p*-value; and a final model was used to examine factors that were significant or borderline significant ($p < 0.100$).^{xvi} Demographic factors were not considered for deletion from the predictive model. Apart from these, only factors that showed an independently significant effect on the outcome of interest were retained. The model indicates which factors might be independent predictors for condom use and VCT. *P*-values for predictors with 2 levels were calculated using the Wald statistic; *p*-values for predictors with more than 2 levels were calculated using the Generalized score statistics (SAS Institute Inc., 2004). Confidence intervals were calculated using the robust “sandwich” estimator of the standard error.

Ethical approval

Ethical approval for the study was granted by the ethical committees of the University Of Cape Town, South Africa and the Institute of Tropical Medicine in Antwerp, Belgium.

RESULTS

Demographics

Of the 1576 people interviewed, of which 55.2 % were women. The response rate for men and women was 83.5 % and 92.2 %; only 13 men and 8 women refused to be interviewed (1.3 % of the total). Table 1 shows the age and gender breakdown of the sample.

Table 1: Respondents by gender and age group

Age groups	Men n;%	Women n;%	Total n;%
14 - 19 yrs	120; 17.2%	134; 14.7%	254; 14.7%
20 - 29 yrs	286; 40.9%	358; 40.7%	644; 40.8%
30 - 39 yrs	173; 24.7%	252; 29.3%	425; 29.3%
40 - 49 yrs	116; 17.3%	134; 15.7%	250; 15.7%
Unknown	2	1	3
Total	697	879	1576

In total 1127 households were visited of which 29 % were of brick and 71 % were informal houses (shacks). The mean number of people per house was 4.1: 3 adults and 1.1 children <14. That children are underrepresented could be explained by the fact that many young children spend the first years of their life with family in the Eastern Cape and come to Khayelitsha for secondary schooling. (This is also consistent with the findings of a 2001 census report which states that that children under the age of 5 years are likely under-represented but gives no explanation.^{xvii})

Over three-quarters of all respondents came from the Eastern Cape, with only, 5 % stated being born in Khayelitsha, although more than half (51%) have been in Khayelitsha for more than 10 years (Table 2).

Table 2: Socio-demographic characteristics

		Men n;% (95 % CI)	Women n; % (95% CI)
Place of birth	Khayelitsha	38; 5.3% (3.8-7.5)	44; 4.8% (3.5-6.6)
	Cape Town	80; 12.3% (9.4-16.1)	125; 14.7% (11.5-18.5)
	Western Cape	35; 4.8% (3.3-7.0)	24; 3.1% (2.0-4.8)
	Eastern Cape	536; 77.3% (72-82)	663; 77.4% (73.0-81.3)
	Other	1; 0.2 (0.0-1.3)	0
		690	856
Years in Khayelitsha	<1 yr	54; 7.3% (5.6-9.3)	52; 5.6% (4.3-7.3)
	1 - 5 yrs	131; 18.9% (15.9-22.3)	165; 18.9% (16.0-22.1)
	5 - 10 yrs	156; 22.3% (19.2-25.9)	217; 25.0% (22.1-28.1)
	>10 yrs	355; 51.5% (47.7-55.4)	441; 50.4% (47.0-53.9)
		696	875
Education	No schooling	19; 2.4% (1.5-3.9)	9; 1.0% (0.5-1.9)
	Primary school	151; 20.8% (17.2-25.0)	144; 15.5% (12.9-18.6)
	Below grade 10	166; 23.5% (20.4-26.9)	184; 20.1% (17.4-23.2)
	Grade 10 and 11	175; 25.6% (22.6-28.9)	293; 34.3% (31.1-37.7)
	Secondary	171; 26.0% (22.4-29.9)	216; 25.1% (21.9-28.5)
Tertiary	13; 1.6% (1.0-2.7)	32; 4.0% (2.6-5.9)	
		695	878
Literacy		624; 90.4% (87.6-92.6)	839; 97.7% (96.3-98.6)
Employment	Full-time	224; 33.3% (29.4-37.4)	137; 17.1% (14.3-20.2)
	Irregular	92; 13.5% (11.2-16.3)	81; 9.1% (7.3-11.4)
	Self/informal	27; 3.9% (2.6-5.7)	67; 7.9% (6.0-10.3)
	Unemployed	204; 27.8% (24.2-31.7)	403; 44.9% (41.1-48.6)
	Students	144; 20.9% (17.8-24.2)	185; 18.1% (15.5-21.1)
	Retired/home makers	6; 0.6% (0.3-1.4)	25; 3.0% (2.0-4.3)
		697	873
Income source	Family and friends	336; 46.7 (42.5-51.0)	574; 63.8 (60.5-67.0)
	Employment	348; 51.8 (47.4-56.2)	260; 30.8 (27.4-34.5)
	Grant	18; 2.3 (1.4-3.7)	137; 15.5 (13.4-18.0)
	Other or none	22; 2.8 (1.8-4.4)	48; 5.7 (4.2-7.6)
		697	879

Literacy rate (able to read a newspaper in isiXhosa) is high, at 94.1%. Overall, 70 % of people have obtained their Junior Certificate (obligatory schooling certificate at the end of Grade 9) and 25 % of respondents have matriculated. More boys than girls attend primary school. There is no gender difference in matriculation, which remains low at around a quarter of people. Although the percentage of people going on to tertiary education is very low at less than 5 %, approximately twice as many girls continue to further education.

Full-time employment is very low, particularly for women with only 17.1 % stating they are in full-time employment while 44.9 % are unemployed. Amongst men, 33.3 % state they are full-time employed and 27.8 % are unemployed. Women are more often either irregularly employed or self-employed in the informal sector. A significantly higher proportion of women (63.3%) than men (45.3 %) depend on their family and friends for money ($p < 0.0001$). In total 9% of people interviewed depend on grants for their livelihood, again the proportion being higher in women (15.6%) than men (2.3%). This is largely attributed to child support grants. The proportion of people living on grants is low given the high level of unemployment.

Relationships

For all age groups combined, 83 % of men and 81.8 % of women state they are involved in a relationship (Table 3). Women tend to have longer lasting relationships than men. In the 20 to 29 years of age group, 4 times more men than women are in a current relationship which has lasted for less than 6 months.

Table 3. Relationships

		Men n; % (95% CI)	Women n; % (95% C.I.)
Relationships	Not in a current relationship	123; 17.3% (14.7-20.1)	163; 18.2% (15.7-20.9)
	In a current relationship	564; 83.0% (80.2-85.5)	711; 81.8% (79.1-84.3)
	- partner not in Khayelitsha	97; 13.5% (11.0-16.4)	123; 14.0% (11.8-16.6)
	- partner in Khayelitsha - living together	259; 37.9% (33.9-42.0) 208; 31.4% (27.5-35.5)	262; 29.8% (27.1-32.7) 326; 37.3% (34.4-41.8)
		687	874
Length of time in relationship	<6 months	71; 12.3% (9.8-15.5)	49; 6.8% (5.1-9.1)
	6 months - 1 yr	37; 6.5% (4.6-8.9)	26; 3.8% (2.5-5.7)
	1 - 5 yrs	309; 54.6% (50.4-58.8)	377; 52.5% (48.3-56.6)
	5 - 10 yrs	93; 16.4% (13.8-19.4)	135; 19.5% (16.7-22.7)
	>10 yrs	57; 10.2% (7.8-13.2)	122; 17.4% (14.7-20.4)
		567	709
Age difference	Partner > 5 yrs older	5; 0.8% (0.3-2.1)	256; 37.0% (32.9-41.3)
	Partner 2 - 5 yrs older	10; 1.9% (1.0-3.5)	321; 45.3% (41.2-49.5)
	Age difference <2 yrs	97; 17.1% (14.4-20.2)	103; 14.6% (12.0-17.7)
	Partner 2 - 5 yrs younger	267; 48.2% (43.6-52.9)	16; 2.4% (1.4-4.1)
	Partner > 5 yrs younger	177; 32.0% (28.1-36.2)	5; 0.6% (0.2-1.8)
		556	701
Condom usage with regular partner	Yes, at last encounter	241 ; 43.7% (39.0-48.4)	237 ; 34.2% (30.1-38.5)
	Never	251; 46.2% (41.3-51.2)	357; 51.5% (47.3-55.6)
	Sometimes	132; 22.4% (18.2-27.2)	153; 22.5% (19.3-26.0)
	Always	170; 31.4% (27.1-36.1)	181; 26.1% (22.3-30.2)
		553	691
Age at first sexual encounter	<13 yrs	38; 6.9% (4.3-10.8)	8; 1.1% (0.5-2.3)
	13 - 14 yrs	86; 14.0% (11.1-17.5)	62; 7.6% (6.0-9.6)
	15 - 16 yrs	223; 34.6% (31.0-38.5)	252; 30.8% (27.9-33.9)
	17 - 18 yrs	189; 28.9% (25.4-32.6)	292; 35.3% (32.3-38.4)
	19 - 21 yrs	82; 13.3% (10.2-17.0)	164; 21.2% (18.6-24.2)
	>21 yrs	15; 2.4% (1.4-3.9)	33; 4.1% (2.9-5.5)
		663	811
Age first condom used	Never	186; 33.2% (28.8-38.0)	296; 40.7% (36.8-44.7)
	<16 yrs	55; 9.8% (7.6-12.5)	55; 7.4% (5.6-9.6)
	16-18 yrs	88; 16.0% (12.7-19.9)	68; 9.1% (6.9-11.8)
	19-21 yrs	76; 13.3% (10.5-16.7)	83; 11.2% (9.0-13.8)
	21-30 yrs	111; 17.7% (14.8-21.2)	135; 18.6% (15.7-21.9)
	>30 yrs	52; 10.0% (7.7-13.0)	93; 13.1% (10.8-15.7)
		568	730
Lifetime number of sexual partners	None	49; 7.8% (6.0-10.3)	56; 6.3% (5.0-7.9)
	1	23; 3.4% (2.1-5.5)	120; 14.7% (12.0-17.7)
	2 - 4	177; 26.9% (23.5-30.6)	491; 58.4% (55.3-61.5)
	5 - 9	190; 28.5% (25.1-32.2)	140; 16.4% (14.0-19.0)
	10 - 19	131; 20.2% (17.1-23.7)	32; 3.9% (2.8-5.4)
	>20	86; 13.2% (10.6-16.3)	3; 0.3% (0.1-1.0)

Sexuality

For all age groups combined, 93.6 % of men and 94.7 % of women reported having had sex. The average age of first sexual encounter is for all ages combined is 16.3 years of age for boys and 17.3 years for girls (table 4). People are having sex younger: for both men and women, the age of first sex has decreased by 3 years when comparing the oldest and the youngest age groups.

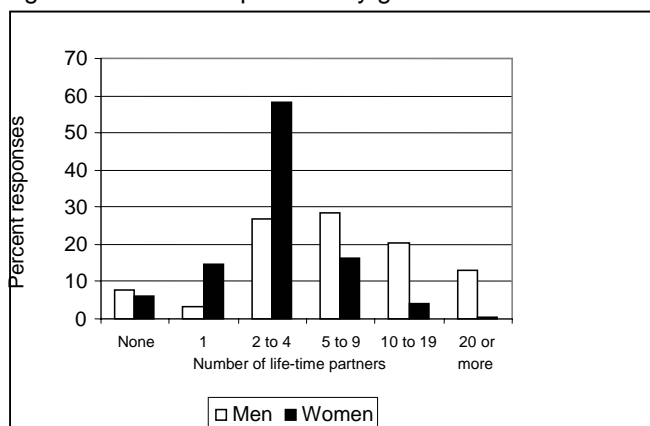
Table 4: Age at first sex by age group

Age group (years)	Men	Women
	Age (95% C.I.)	Age (95% C.I.)
14-19	14.3 (13.8-14.9)	15.3 (15.0-15.7)
20-29	15.9 (15.6-16.2)	17.0 (16.8-17.2)
30-39	16.9 (16.4-17.4)	17.7 (17.4-18.0)
40-49	17.4 (16.9-17.9)	18.2 (17.8-18.6)
All age groups	16.3 (16.0-16.5)	17.3 (17.1-17.4)

Number of lifetime partners

For all age groups combined, 3 % of men and 14 % of women stated having had one lifetime partner; 58 % of women and 27 % of men report having had between 2 and 4 partners; 19 % of men and 4 % of women report between 10 and 19 partners and finally 13 % of men and 0.3% of women report more than 20 partners (figure 1).

Figure 1. Number of partners by gender



Almost a third (30.9%) of men and one in ten (9.4%) women stated they have been involved with someone outside of their regular relationship in the last 12 months. Among these 20.3% of men and 10.4% of women said they had been involved in transactional sex over this period.

Condom use

When asked whether a condom was used the last time they had sex, 42% of men and 33% of women responded positively (table 5). The highest condom use is found in the youngest age group with 68 of boys and 56 % of girls reporting they used a condom at last intercourse.

Most of those involved with someone outside of their regular partnership reported using a condom: 72% for men and 86% for women. In questions on reasons for using or not using condoms, multiple answers were possible. The number of respondents to each question is given (n=) in the table. Most respondents sometimes used condoms and sometimes did not, and reasons were given for both using and not using condoms.

Table 5: Reasons for using and for not using condoms amongst those sexually active.

		Men n; % (95% CI)	Women n; % (95% C.I.)
Condom used during last sexual contact n=	Yes, condom used	263; 40.7% (67.2-74.8)	262; 32.6% (28.9-36.5)
		638	808
Reasons stated for using condoms n=	To protect myself from HIV To protect my partner from HIV To protect either from STI To prevent pregnancy Partner insists	322; 49.3% (45.1-53.5) 137; 21.1% (18.0-24.6) 239; 35.7% (32.0-39.7) 133; 20.3% (17.3-23.5) 18; 2.7% (1.2 - 5.6)	272; 32.8% (29.7-36.0) 75; 9.1% (7.1-11.7) 267; 32.3% (28.8-36.0) 184; 22.2% (18.8-26.0) 5; 0.6% (0.2 - 2.6)
		648	823
Reasons stated for NOT using condoms n=	My partner is faithful My partner refuses Do not enjoy sex with them I(we) want a baby Do not feel at risk Do not believe they work Do not know where to find them They break They are too tight They will bring harm to me	231; 37.2% (32.9-41.8) 16; 2.5% (1.5-4.2) 92; 13.6% (11.3-16.2) 28; 4.1% (2.7-6.2) 12; 2.3% (1.2- 4.2) 44; 6.7% (5.0- 8.8) 15; 1.8% (1.0- 3.1) 1; 0.1% (0.0- 0.5) 4; 0.8% (0.3- 2.1) 1; 0.1% (0.0- 0.5)	184; 23.2% (19.6-27.2) 227; 27.2% (24.0-30.6) 10; 1.0% (0.5 -1.9) 46; 5.6% (4.2 - 7.4) 32; 3.6% (2.3- 5.7) 12; 1.5% (0.9- 2.5) 6; 0.8% (0.4- 1.9) 1; 0.1% (0.0-1.0) 2; 0.2% (0.1-0.9) 5; 0.6% (0.2-1.4)
		647	823

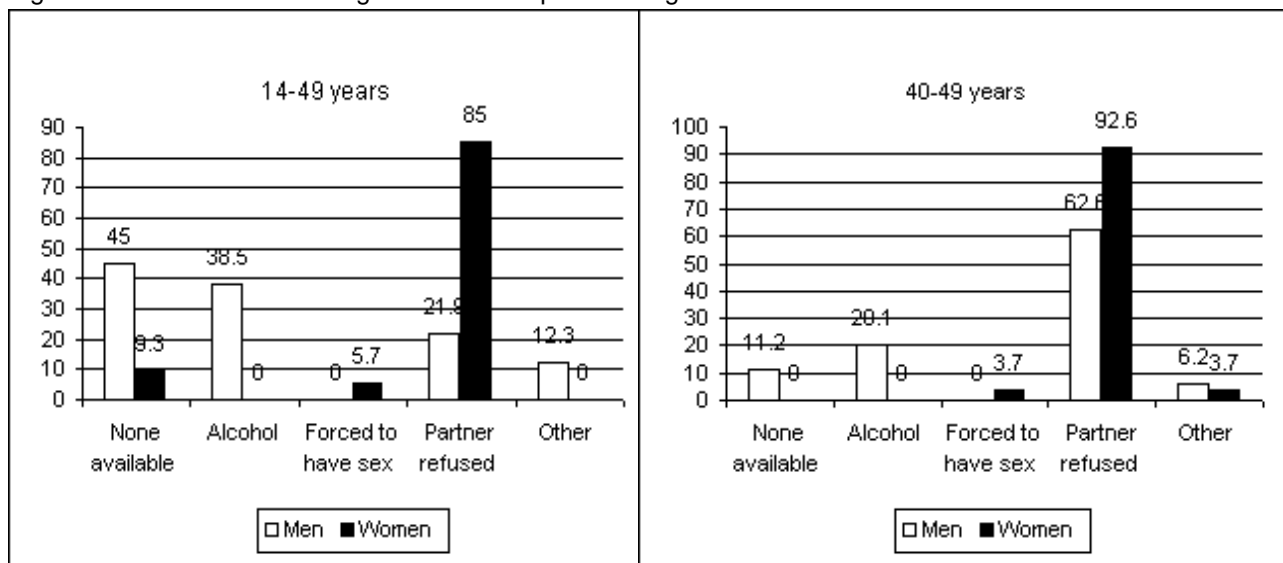
Quality or size of condoms does not appear to be a problem as less than 1 % of men and woman stated either “they tear” or “too tight”. In all age groups, women report lower condom use than men.

Protection against HIV was the main stated by people for using condoms, with approximately half the men and a quarter of women giving this reason. The same proportion (1 in 5) of men and women stated using condoms to prevent pregnancy.

The main reason given by men not to use condoms (37.2%) was “their partner is faithful”. This reason is also given by 23.2 % of women. The main reason given by women (27.2%) for not using a condom is that their partner refused.

When asked whether there were times when respondents had wanted to use a condom but had not, 28.8 % of women said yes, compared to 18.4% of men. For women the main reason for wanting to, but not using a condom was that their partner refused (87%). For men the main reason was alcohol abuse (35.3%). When separated by age (figure 2), it can be seen that the importance of alcohol diminishes by age for men and the frequency of women refusing condoms increases.

Figure 2. Reasons for not using a condom despite wanting to



Source of condoms

Clinics are the main source of condoms for over 90 % of men and women, with less than one in ten people (7.3 % of men and 9.8 % of women) stating they buy condoms (figure 3). In younger age groups, school is the next most important source and for older men shebeens are the next most important source.

Femidoms

Female condoms (femidoms) are known by 54.6% of men and 85.8% of women. Only 2.8% of men and women have tried them, although 40% of men and 68.1% of women say they would do so if they were freely available.

HIV Knowledge

For all age groups combined, men state having first heard of HIV in 1997, and women in 1999. For the youngest age group, boys and girls both most frequently stated hearing about HIV in 2000. Table 6 gives some detailed information regarding HIV knowledge. Over one fifth of men (21.9 %) and one in seven (14.4%) women believe a positive HIV status can be deduced by looking at a person. Weight loss is the symptom associated most frequently by both men and women with HIV. In men, this is followed by hair loss (44.2 %) and red lips (36.2 %). For women, it is followed by: hair loss, diarrhoea and red lips. Most of the symptoms stated indicate knowledge of advanced HIV disease in accord with the age of the epidemic (approximately 15 years). (N.B. ‘Red lips’ is a rather unusual symptom and its significance is not understood.) The category of “other” symptoms (11 % of men, and 44% of women) includes TB, sores, tiredness, loss of appetite, sweating, fever and thrush) women stated these far more frequently.

The overwhelming majority of people know how HIV is transmitted with over 99.3 % of women and 99.0 % of men stating “unprotected sex” as the main mode of transmission. Significantly more women than men also stated “dirty needles” and “MTCT”. However, women were also more likely to give answers such as witchcraft (15.5%), punishment (25.5%) and foreigners (32.6%).

Table 6. Knowledge of HIV/AIDS

	Men n; % (95% CI)	Women n; % (95% CI)
HIV status can be known by looking at a person	141; 21.9% (18.5-25.7)	130; 14.4% (12.0-17.2)
Symptoms of HIV/AIDS? - <i>weight loss</i> - <i>coughing</i> - <i>diarrhoea</i> - <i>vomiting</i> - <i>dementia</i> - <i>inability to walk</i> - <i>hair loss</i> - <i>red lips</i> - <i>do not know</i> - <i>other</i>	543; 79.2% (75.7-82.3) 99; 14.2% (11.3-17.7) 195; 28.6% (24.8-32.8) 58; 8.0% (5.9-10.7) 17; 2.6% (1.6-4.3) 198; 29.0% (25.8-32.5) 290; 44.2% (39.5-49.0) 235; 36.2% (32.2-40.5) 134; 18.1% (15.4-21.1) 70; 10.7% (8.7-13.0)	646; 73.6% (73.4-79.0) 155; 16.1% (14.0-18.5) 270; 30.0% (27.3-32.9) 85; 9.0% (7.4-10.9) 31; 3.0% (2.3-4.0) 186; 25.0% (22.8-27.4) 260; 30.4% (27.4-33.7) 170; 20.3% (17.4-23.5) 102; 11.5% (9.5-13.9) 371; 44.1% (40.0-48.3)
Know someone with HIV/AIDS ? If yes, was the person - <i>a family member</i> - <i>a friend/colleague</i> - <i>have you cared for someone with HIV/AIDS ?</i>	368; 54.0% (49.5-58.5) 65; 18.0% (14.4-22.3) 103; 27.4% (22.3-33.1) 37; 9.3% (6.1-13.9)	549; 62.7% (59.1-66.2) 156; 29.5% (25.6-33.8) 239; 44.0% (39.3-48.8) 126; 21.9% (18.2-26.1)
Know someone who has died of AIDS, if yes - <i>were they a family member</i>	491; 72.7% (68.7-76.4) 83; 17.2% (13.9-21.2)	650; 76.0% (72.8-78.9) 190; 30.2% (27.1-33.4)

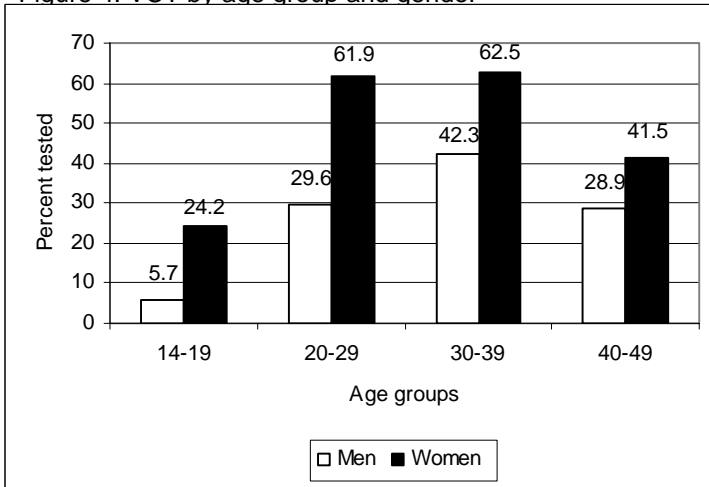
Overall 54% of men and 62.7% of women report knowing someone who is infected with HIV; for 18% of men and 29.5% of women this is a family member and for 27.4% of men and 4% of women it is a friend or colleagues. Almost one in ten men (9.3%) and over one in five women (21.9%) say they have cared for someone with AIDS. Around three quarters of men and women state they know someone who has died of AIDS. Amongst youth aged 14 to 19 years 65.9 % of boys and 70.7 % of girls report knowing someone who has died. This proportion increases by age group to reach 75.5 % for men and 79.5 % for women aged between 40 and 49 years. The numbers of people known to have died range from 1 to 6 with a median of 2 for people aged 14 to 29 and 3 for those 30 to 49 years of age. Men report almost half the number (17.2%) of deaths among family members compared to women (30.2 %).

Voluntary Counseling and Testing

Over three-quarters (77.9%) of men and almost all (96%) women say they know where they can be tested. The figure of those who have tested is highest in the 30-39 year group: 42.3 % for men and 62.5 % for women. Overall 28.0% of men and 53.3% of women have been tested. This is highest in the 30-39 age group and lowest in the 14-19 year group (figure 4).

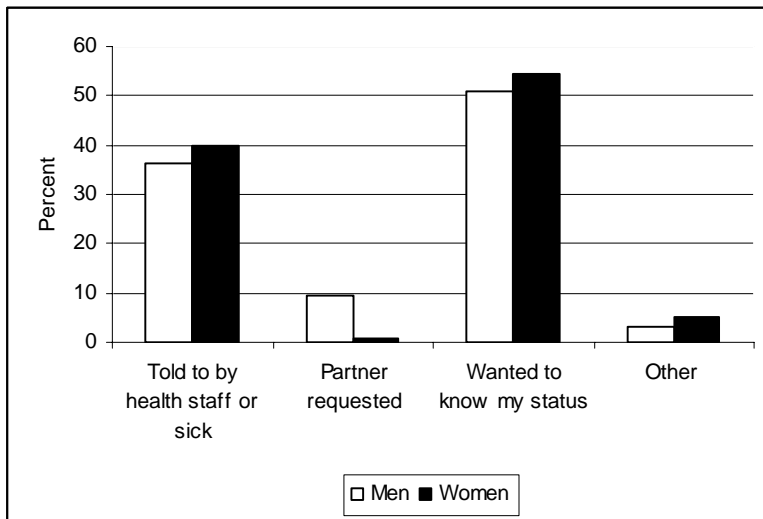
The majority of people who said they would be willing to disclose their status (94.8% of men and 93.1% of women) declared they were HIV negative; only 1.1% of men and 6.1% of women were willing to disclose their positive status.

Figure 4. VCT by age group and gender



Men and women give different reasons for taking an HIV test (figure 5). Overall just over half of men stated they took a test to know their status, Just under half of women stated they took a test when pregnant in order to benefit from the PMTCT programme. Although this programme encourages couple counseling and testing, only 2.3 % of men state this reason for taking a test. Even when MTCT is removed, approximately twice as many women opt for VCT. The majority of women state that they tested because they wanted to know their status.

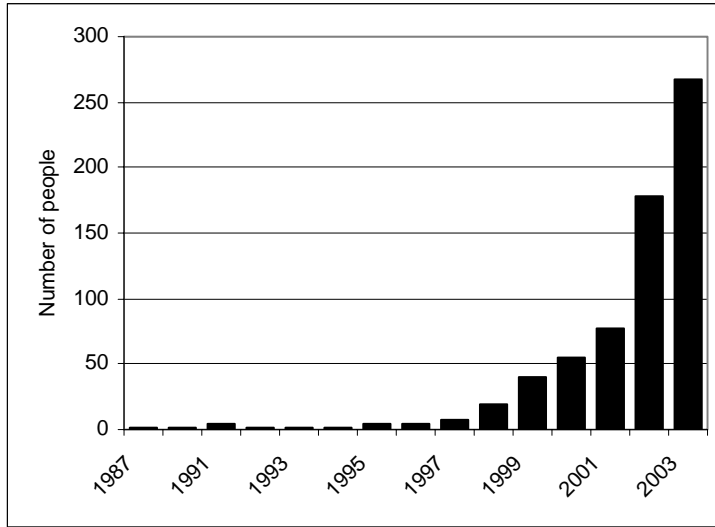
Figure 5. Reasons for VCT by gender, with MTCT removed



As can be seen when removing MTCT as a motivation for testing, still approximately twice as many women opt for VCT. Approximately half of both men and women state that they tested because they wanted to know their status. Over one third of men and 40 % of women stated they were told to at the clinic or were sick which indicates late testing.

VCT services have been available since the mid 1990s in the 3 Community Health Centres and since 1999 in the 2 Midwife Obstetric Units through the PMTCT programme. However as can be seen by figure 6, VCT uptake increased slowly between 2000 and 2002, with a dramatic increase in 2003.

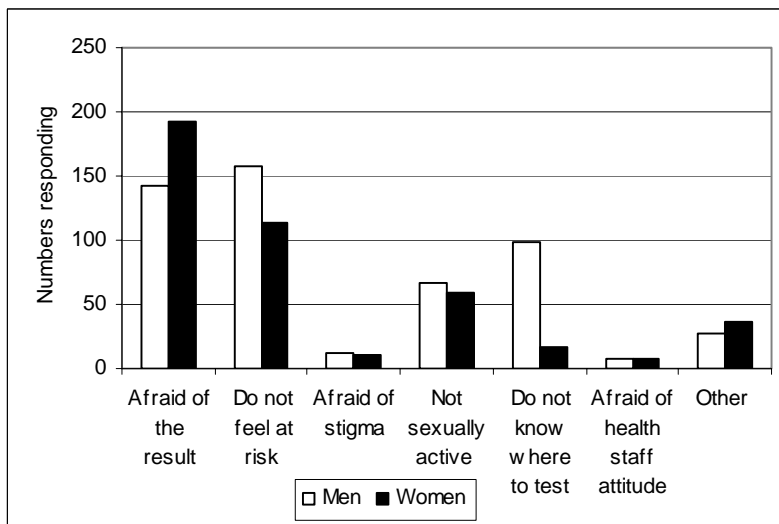
Figure 6. Year tested for HIV



Reasons for not testing

The main overall reason given by both men and women for not testing was found to be fear of the result (figure 7). For the 20-29 age group the main reason for both men (40.2%) and women (67.3%) given for not testing is fear of the result. Men aged 30-49 years, give as the most frequent answer that they do not feel at risk; this is also the most frequent answer for women aged 40-49 years, while women aged 30-39 years state that fear of the result is still the main barrier to VCT.

Figure 7: Reasons for not testing (all age groups)



Knowledge of ART

Overall, 8.1% of men and 6.6% of women believe that HIV can be cured 97.5% of men and 97.2% of women say that TB can be cured. Only a quarter (26.9%) of men and under half (43.3%) of women have heard of ART. Knowledge of ART varies with gender and age, with those aged 30-39 years (both men and women) having heard of ART the most (figure 14). There is a significant difference in knowledge of ART between genders except among the 14-19 year

group. However, of those who had heard of ART, only 19.7% of men and 22.9 % of women correctly stated that it needs to be taken forever. These figures reflect the fact that women more often know people actually taking treatment (21.6%) than men (14.1%).

For all ages combined, radio is the most common sources of information on ART, followed by television. Newspapers are the third most frequent source of information for men whereas for women it is the clinics. For youths of less than 20 years of age, newspapers are the main source of information for both adolescent girls and boys, followed by school and television for girls and television and radio for boys.

Circumcision

Overall 74.9 % of men have been circumcised. The median age of circumcision is 21.

Multivariate analysis

The influence of each of the different variables on condom use and VCT uptake was analysed. Adjustment was made for age, education and type of relationship. Overall, condom use is highest in the youngest age groups and decreases with increasing age. Condom use is highest for people with the highest levels of education (>grade 10). The lowest condom use is seen in couples living together. For men, condom use is higher in short-term relationships ($p=0.001$), among those know how HIV is transmitted ($p=0.012$), who know that condom use prevents HIV infection ($p<0.001$), and among those who discuss HIV/AIDS with friends ($p=0.038$). For women, condom use is highest in short-term relationships ($p<0.001$), in those with higher education ($p=0.007$), in those who know someone who has died of AIDS ($p=0.022$), and in those with knowledge of ART ($p=0.004$).

The proportion of people who have taken an HIV test is highest around 30 years of age; people in long term relationships or living together are the most likely to have taken a test. Men who are employed full-time are more likely to have gone for VCT ($p=0.04$), as are those who know someone who has tested, particularly if it is their partner ($p<0.001$). Also, men who know that condom use prevents transmission are more likely to test ($p=0.022$).

Women who have cared for someone with HIV/AIDS are more likely to test ($p=0.007$), as are those who know someone who has taken a test ($p=0.008$), and those who know condoms prevent HIV infection ($p=0.022$). Women who know about PMTCT are more likely to test ($p<0.001$) as are those who discuss HIV/AIDS with friends, family or partner ($p=0.018$).

The effect of knowledge of ART was also looked at in relation to condom use and VCT. For both men and women a positive relationship was found between VCT and knowledge of ART.

Discussion

In some respects people in Khayelitsha could be considered to be advantaged when it comes to knowledge about HIV/AIDS compared to populations in similar settings elsewhere. There is a high level of education among men and women, an active grassroots activist movement running regular education campaigns within the community; and treatment for opportunistic infections and antiretroviral therapy is becoming increasingly available. However, crippling levels of unemployment and financial dependency, high violence, together with persistent misconceptions around and fear of AIDS continue to ensure that HIV proliferates.

Condoms are understood to offer protection against HIV and STIs, and this is the main reason why people use them. People generally believe their partners are faithful – it is the main stated reason why both men and women do not use condoms – when unfortunately almost a third of

men and one in ten women stated are involved in relationships outside of their regular relationship.

There is, encouragingly, a strong association between condom use, knowledge of HIV, and being in a short-term relationship. Condom use is highest in the youngest age group with two thirds of men and over half (56%) of women reporting having used a condom at last intercourse. Most people involved with someone outside of their regular partnership also report using a condom; this figure is higher among women (85.5%) than men (72.1%), despite the latter being more likely to have additional relationships.

Over a quarter of women and almost a fifth of men report that there have been times when they wanted to use a condom but had not. The predominant issue for women is partner refusal whereas for men it is alcohol abuse. Female condoms could provide part of the solution here: over two-thirds of women said they would use them if they were available, but less than 3% have tried them. Clinics are the main source of condoms for over 90 % of men and women, with less than one in ten saying they buy condoms.

Women use condoms less than men. Condom use is likely to be undermined by a high level of misconception about how HIV is spread, particularly among women: almost half believe that HIV can be transmitted through toothbrushes, while one in ten believe it can be transmitted through coughing. Women also associate HIV infection with other modes of transmission condoms will not help: one in six blame it on witchcraft, and over a quarter say HIV is a (often Biblical) punishment. This high degree of misunderstanding is consistent with results of a large household survey done in 2005^{xviii} which found that almost one in three of people aged over 50, and nearly a fifth of those aged between 12-14 were unsure whether HIV caused AIDS.

HIV is clearly very visible within the community. The majority of people (54% of men and 62.7% of women) know someone who is HIV positive and one in ten (9.3%) men and over one in five (21.9%) women say they have cared for someone with AIDS. Around three-quarters of respondents know someone who has died of HIV/AIDS. Despite this – or perhaps because of it – knowledge of HIV status is highly variable, according to age, relationship status, and knowledge of HIV. The most common age for taking a test is around 30 years of age; this leaves a large gap between average age of testing and average age of first sexual encounter (16 for boys and 17 for girls), and only one in twenty boys aged 14-19 years have taken a test; for girls it is higher, at one in four. The main reason people do not take a test is fear of a positive result.

While over three quarters (77.9%) of men and almost all (96.5%) women know where they can be tested; only 28.0% of men and 53.3% of women have tested. People who know that condom use prevents transmission are more likely to test. For women, openness – discussing HIV/AIDS with friends, family or partner – is associated with testing.

For both men and women a positive relationship was found between VCT and knowledge of ART. Consistent with the fear factor therefore is the fact that testing is therefore generally done by those who know most about their options in terms of prevention and treatment. Fear in turn continues to fuel denialism; while almost everyone would disclose a negative status very few people – 1.1% of men and 6.1% of women – were willing to disclose their positive status.

Fear of HIV is also linked to the continued poor understanding of what can be done to manage HIV: only one in four men and less than half of women had ever heard of antiretroviral therapy. Of those who had heard of it, only one in five understood that it is a lifelong treatment.

Recommendations

Intense efforts have been made to promote prevention and testing in Khayelitsha, which was also the first township in South Africa to receive antiretroviral therapy. And yet still under half of people used a condom the last time they had sex, less than a third of men and only half of women have ever taken an HIV test, and only a quarter of men and under half of women have heard of antiretroviral therapy. There is no room for complacency.

It is important to bear in mind that the community of Khayelitsha is extremely heterogeneous: the level of knowledge held, and the type of knowledge needed, differs for different age groups and between sexes. Efforts to promote understanding about HIV, to encourage testing and prevention, and to reduce fear and denialism, need to be tailored as much as possible to meet the different needs of different groups.

Access to condoms is almost entirely limited to the clinics; they need to be widely promoted more generally within the community. The availability of female condoms also needs to be increased, given that the majority of women would use them if they were available, and many women are prevented from using condoms by their partner.

Studies done in South Africa show that male circumcision provides a degree of protection against acquiring HIV infection.^{xi} In this study the median age of circumcision was found to be 21, by which age virtually all men are already sexually active.

Fear fuels denialism and stops people from getting tested, and misconceptions around how and why HIV is spread continue to confuse people's understanding. Many people continue to believe that HIV can be spread through coughing, toothbrushes and crockery. Women in particular associate HIV with victimization and punishment. Efforts need to be redoubled to ensure that the most basic messages about HIV and prevention are received and understood.

Testing is most likely to be done among people with the least to fear. It can be expected that this trend continues among people who test more than once. With over 30,000 tests carried out in Khayelitsha in 2004, the question of who exactly is being tested needs to be investigated further. Testing needs to be particularly encouraged among youths, and as early as possible, given that on average there is 10-15 year lag time between becoming sexually active and seeking a test. Knowledge of treatment – knowing that something can be done – also encourages people to know their status, and reconfirms mutually reinforcing dynamic between treatment and prevention activities. This is also evident from the fact that PMTCT is a major stimulus for women getting tested.^{xx} Expanding both knowledge of and access to treatment is a critical part of encouraging people to know their status and promoting prevention of HIV transmission.

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