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SEXUAL BEHAVIOUR

Sexual behaviour and HIV infection in black-Africans in England: results from the Mayisha II survey of sexual attitudes and lifestyles

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Web appendix table 1 and figure 4 can be viewed in the supplementary section online at http://sti.bmj.com/supplemental

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Objectives: To estimate HIV prevalence and the distribution of high risk sexual behaviours, sexual health service use, and HIV testing among black Africans aged 16 years or over in England. To determine demographic, behavioural and service use factors associated with HIV prevalence.
Methods: A cross-sectional community-based survey (Mayisha II) in London, Luton and the West Midlands. A short (24-item) anonymous self-completion questionnaire with linked voluntary anonymous oral fluid sampling, using an Orasure™ device for HIV testing.
Results: A total of 1359 eligible black African men (51.9%) and women (48.1%) were recruited, of whom 74% (1006) provided a sufficient oral fluid sample for HIV testing. 42.9% of men and 50.9% of women reported ever having had an HIV test. Overall, 14.0% (141, 95% CI 11.9 to 16.3) of respondents tested HIV positive (13.1% of men and 15.0% of women); 9.2% (93) had undiagnosed HIV infection, while 4.8% (48) had a diagnosed HIV infection. HIV prevalence was significantly higher in men: born in East Africa; who had had a previous STI diagnosis; or who were recruited in bars and clubs; and in women: born in East or Southern Africa; aged 25 years and over; who had had two new sexual partners in the past 12 months; or who had had a previous STI diagnosis.
Conclusions: Despite about half the sample having had an HIV test at some time in the past, 9.2% of respondents had an undiagnosed HIV infection. This study supports current policy efforts to further promote HIV testing and serostatus awareness.

In the UK, individuals born in sub-Saharan Africa currently bear the brunt of the heterosexual HIV epidemic.[1] In 2005, over a third of the estimated 63,500 adults aged 15–59 living with HIV in the UK were African-born men and women, accounting for 64% of all infections in heterosexuals.[2] Black Africans accounted for just over half (52%) of all new diagnoses in England Wales and Northern Ireland in 2005, 27% of all

undiagnosed infections and 53% of undiagnosed heterosexual infections.[2] Among those living with diagnosed HIV infection 70% of heterosexuals and 1.3% of men who have sex with men were of black African ethnicity.[2] By 2005, 39% of the 44 553 cumulative HIV infections where ethnicity was reported in the UK were in people of black African ethnicity, compared with 16% of the 12 041 infections cumulatively reported a decade earlier. In recognition of this alarming health disparity, the Department of Health's Strategy for Sexual Health and HIV has identified HIV prevention among black Africans in Britain as a priority area,[3] and numerous targeted prevention programmes and campaigns have been implemented over the past decade.

An integral part of improving the delivery and quality of evidence-based HIV prevention interventions within the black African community is the ability to monitor levels of high-risk sexual behaviour and to measure its association with diagnosed and undiagnosed HIV infection.[4] In the absence of an ongoing behavioural surveillance programme for black Africans in the UK, ad hoc behavioural surveys including the 1999 Mayisha study[5 6] and the 2nd British National Survey of Sexual Attitudes and Lifestyles (Natsal) conducted in 2000[7 8] have provided recent estimates of risk behaviours and HIV testing in this population. Previous studies have demonstrated the feasibility and acceptability of collecting oral fluid samples in community venues for future HIV testing and linking the results to key sexual behavioural data.[9–11]

In this study, we aim to estimate HIV prevalence and the distribution of high-risk sexual behaviours, sexual health service use, and HIV testing among black Africans aged 16 years or over living in England; and to determine the

Key messages

- Mayisha II is one of the largest community recruited samples of black Africans in Britain, and for the first time community sexual health survey and HIV seroprevalence data on Africans resident inside and outside London has been collected
- We found evidence of substantial sexual health need: 22% of respondents reported having had a previous STI diagnosis and 47% a previous HIV test
- Overall HIV prevalence was 14.0% (141/1006), and of these 66.0% of the infections identified were undiagnosed
- Our findings indicate that current efforts to promote HIV testing and awareness of HIV serostatus among black Africans living in the UK should be further strengthened, and culturally competent education programmes promoting risk reduction strategies must continue

demographic, behavioural and service use factors associated with HIV prevalence.

METHODS

The Mayisha II methodology has been described in detail elsewhere,[11 12] but we briefly summarise the methods below.

Participants and survey methodology

Mayisha II was a cross-sectional community-based survey of HIV prevalence, sexual attitudes and lifestyles among black Africans aged 16 years and over attending social and commercial venues in London, Luton and the West Midlands (Birmingham, Coventry and Wolverhampton). The three study areas are currently the sites of the largest, most diverse, and well-established African communities in the UK.[13] The study adopted a participatory approach through the involvement of key African community-based organisations (CBOs) in all stages of the study design, development and implementation.[5 11] We trained teams of African field workers (anglo- and francophone) in each site to recruit respondents to the study. Recruitment targets were set for 250 respondents in Luton, 250 in the West Midlands and 1000 in London based on expected

HIV prevalence and sexual behaviours known from existing surveys.[5–8]

Fieldwork was conducted between August and December 2004, adopting a purposive opportunistic sampling methodology in community-identified social and commercial venues, including bars, clubs, universities, churches, shops, barbers/hairdressers and community events. Potential venues were identified and enrolled by a community consultant, local survey co-ordinator, field worker or local survey group. Following consultation with venue owners, field workers approached individuals in the venue, explaining the two components of the survey providing details of the confidential and anonymous nature of the survey and obtaining verbal informed consent for participation.

The survey comprised a short (24-item) self-completion questionnaire that collected demographic, health service use, behavioural and attitudinal information from respondents. The questionnaire design, wording and response options had previously been tested and refined to ensure they were culturally appropriate.[11] Questionnaires and survey information materials were available in English and French. Once respondents had completed the questionnaire, they were invited to

Table 1 Descriptive characteristics of respondents

	Percentage of respondents (n/N)	
Variable	Females	Males
Area		
London	66.8 (436/653)	61.8 (436/706)
Luton	15.8 (103/653)	21.1 (149/706)
West Midlands	17.5 (114/653)	17.1 (121/706)
Age group		
Under 25	33.7 (206/612)	25.7 (168/654)
25–29	22.2 (136/612)	21.4 (140/654)
30–34	19.8 (121/612)	18.8 (123/654)
35–39	10.9 (67/612)	16.5 (108/654)
40+	13.4 (82/612)	17.6 (115/654)
Region of birth		
Eastern Africa	46.5 (298/641)	47.6 (328/689)
Horn of Africa	19.7 (126/641)	17.9 (123/689)
Southern Africa	5.1 (33/641)	3.8 (26/689)
Central Africa	8.1 (52/641)	9.4 (65/689)
Western Africa	12.8 (82/641)	15.4 (106/689)
Other and outside Africa	7.8 (50/641)	6.0 (41/689)
Time since arrival in the UK		
0–24 months	26.9 (154/572)	25.5 (159/623)
25–60 months	37.9 (217/572)	33.7 (210/623)
61–108 months	15.0 (86/572)	16.7 (104/623)
109+ months	20.1 (115/572)	24.1 (150/623)
Education attainment		
None	2.2 (14/641)	1.6 (11/699)
Primary/elementary	5.9 (38/641)	3.1 (22/699)
Secondary/high school	27.9 (179/641)	24.9 (174/699)
University/college	49.0 (314/641)	56.2 (393/699)
Profession/training	14.0 (90/641)	13.4 (94/699)
Other	0.9 (6/641)	0.7 (5/699)
Marital Status		
Married (partner abroad)	6.8 (44/644)	10.6 (74/699)
Married	22.8 (147/644)	27.3 (191/699)
Widowed/separated/divorced	7.5 (48/644)	4.1 (29/699)
Living with partner	8.5 (55/644)	7.7 (54/699)
In relationship	13.2 (85/644)	14.3 (100/699)
Single	41.1 (265/644)	35.9 (251/699)
Site of recruitment		
Social network (+weddings and christenings)	21.8 (122/559)	20.8 (126/607)
Churches	5.4 (30/559)	4.6 (28/607)
University/college	10.2 (57/559)	14.3 (87/607)
Pubs, restaurants, bars, nightclubs	3.9 (22/559)	8.4 (51/607)
Barbers, hairdressers, markets, shops	3.8 (21/559)	5.4 (33/607)
Events, concerts, football	50.6 (283/559)	42.3 (257/607)
Other	4.3 (24/559)	4.1 (25/607)

provide an optional anonymous oral fluid sample using an Orasure™ collection device for laboratory-based HIV testing. Finally, respondents were asked to provide separate contact details so that a sub-set could be approached for follow-up in-depth interviews to be conducted within 2 months (results not presented).[12] All respondents were given contact details of local organisations for subsequent assistance with any HIV-related issues including details of how to obtain an HIV test. Response rates for all individuals approached and the uptake of oral fluid sampling were collected.

Completed questionnaires and oral fluid samples (if provided) were linked by a unique bar code, sealed in a tamper-proof envelope and forwarded to the research team for processing. The oral fluid samples were stored and tested at the Health Protection Agency Centre for Infections for antibodies to HIV-1 and HIV-2. Each sample was initially tested to establish whether sufficient immunoglobulin G (IgG) was present. The samples were then tested for anti-HIV-1/2 antibodies using an IgG class-specific antibody capture enzyme immunoassay developed by the HPA.[14 15] Reactive specimens were tested using an alternative assay (Clonesystems Detect-HIV (protocol modified for oral fluids)) and, in some cases, by Western Blot (Genelabs HIVBlot 2.2) according to a standard tested algorithm.

The questionnaire data were linked to the laboratory results using the unique bar-code identifier. HIV prevalence was estimated for various sub-groups, and questions relating to HIV testing and the last HIV test result were used to divide prevalence into diagnosed and undiagnosed prevalence. For each prevalence, a 95% confidence interval was calculated, and Fisher's exact tests were used to detect significant differences between sub-groups. Odds ratios were used to measure the association of demographic, behavioural and service use factors

with HIV prevalence. Logistic regression was used to calculate adjusted odds ratios to identify factors independently associated with HIV prevalence. All analyses were carried out using STATA version 8.2 (Stata Corporation, College Station, TX). The study was approved by the Trent Multi-centre Research Ethics Committee, following the successful completion of a feasibility and acceptability pilot study earlier in the year.[11]

RESULTS

A total of 1608 respondents were recruited to the study, of whom 1359 (84.5%) were eligible for inclusion in the analysis (ie, aged 16 years or over, and self-identifying as black African ethnicity); 64.2% of the eligible sample were recruited in London, 18.5% in Luton and 17.3% in the West Midlands. Field workers recorded 798 refusals, giving an effective response rate of 56.5% (1359/2406).

Table 1 presents the descriptive characteristics of the recruited sample, just over half of whom (51.9%) were men. Thirty-six different African countries of birth were reported by respondents, although most were from East Africa (predominantly Uganda and Zimbabwe). Median time since arrival in the UK was 4 years. About three-quarters (79.1%) had received either secondary school or university education. Approximately half of the men (49.2%) and fewer (39.1%) women were currently employed, and 29.7% of men and 35.4% of women were in full- or part-time education. More women reported being single than men (41.1% and 35.9%). Among those who were married, approximately a quarter (25.9%) reported that their partner lived abroad.

Table 2 presents the key behavioural and service use characteristics of the sample. Most respondents (58.8% men and 70.8% women) reported having had no new sexual partners in the past 12 months, although 21.3% of men and

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Table 2 Sexual behaviour and service characteristics of respondents

Variable	Percentage of respondents (n/N)	
	Females	Males
No. new partners in past 12 months		
0	70.8 (380/537)	58.8 (326/554)
1	21.0 (113/537)	19.9 (110/554)
2	4.7 (25/537)	11.2 (62/554)
3 to 4	2.4 (13/537)	7.6 (42/554)
5+	1.1 (6/537)	2.5 (14/554)
Gender of sex partners in past 12 months		
Male only	92.2 (530/575)	5.8 (38/651)
Female only	5.4 (31/575)	91.9 (598/651)
Male and female	2.4 (14/575)	2.3 (15/651)
STI clinic attendance		
Never	56.1 (359/640)	62.3 (424/681)
<5 years ago	38.1 (244/640)	31.0 (211/681)
>5 years ago	5.8 (37/640)	6.8 (46/681)
STI diagnosis		
Never	77.9 (496/637)	78.7 (539/685)
<5 years ago	16.8 (107/637)	13.1 (90/685)
>5 years ago	5.3 (34/637)	8.2 (56/685)
Ever had an HIV test		
Never tested	49.1 (316/643)	57.1 (397/695)
<5 years ago	47.0 (302/643)	37.6 (261/695)
>5 years ago	3.9 (25/643)	5.3 (37/695)
Last HIV test result		
Negative	38.7 (248/640)	35.0 (242/692)
Positive	6.9 (44/640)	5.6 (39/692)
Don't know/did not collect	5.0 (32/640)	2.0 (14/692)
Never tested	49.4 (316/640)	57.4 (397/692)
Current perceived HIV status		
Negative	57.4 (375/653)	57.5 (406/706)
Positive	9.0 (59/653)	6.2 (44/706)
Don't know	25.6 (167/653)	28.0 (198/706)
Not answered	8.0 (52/653)	8.2 (58/706)

8.2% of women reported two or more; 5.8% of men and 5.4% of women reported having only had same sex partners in the past 12 months.

Just over one-fifth of both men (21.3%) and women (22.1%) reported having ever had an STI (table 1), while about half of women and slightly fewer men reported ever having had an HIV test (50.9% and 42.9%, respectively). Of those who had previously HIV tested, the majority (92.4% of women and 87.6% of men) had done so in the past 5 years, mostly at an STI clinic. While 5.6% of men and 6.9% of women reported a previous positive HIV test, when asked about their perceived HIV status, 6.2% of men and 9% of women thought their current HIV status to be positive.

Overall 74% of questionnaire respondents provided a sufficient oral fluid sample for anonymous HIV testing; 75.5% in women, 72.7% in men (see web appendix table 1 for more detail at http://sti.bmj.com/supplemental).

Uptake varied significantly across locations and was highest in London (80.6%, compared with 64.3% in Luton and 60% in the West Midlands); among respondents who reported they had never been diagnosed as having an STI compared with those who had (77.7% cf. 67.9%, p = 0.001); and among those who had previously had a negative HIV test compared with those who previously tested HIV positive (79.4%, cf 61.5%, p = 0.001).

Tables 3 and 4 present HIV prevalence in the sample. The overall HIV prevalence of 14.0% (95% CI 11.9 to 16.3; 13.1% in men and 15.0% in women) varied significantly (p<0.05) by area, age group, region of birth, marital status, previous STI clinic attendance and previous STI diagnosis among both men and women. In men, those recruited from pubs, restaurants, bars or nightclubs were more likely to be HIV positive than other men (OR 2.9), and in women, those who had had two or more new partners in the past 12 months (OR 2.5) or who were heterosexual. In multivariate analysis, controlling for potentially confounding variables resulted in significant associations of HIV prevalence with region of birth, previous STI diagnosis and site of recruitment in men; and, in women, with age group, region of birth, marital status, previous STI diagnosis

Table 3 HIV prevalence and associations with characteristics of female participants

Variable	Females			
	HIV prevalence % (95% CI)	OR (95% CI)	Adjusted OR (95% CI)†	Base
All respondents	15.0 (12.0 to 18.5)	–	–	493
Area		p=0.001	p=0.59	
London	12.5 (9.2 to 16.3)	1	1	361
Luton	11.3 (4.7 to 21.9)	0.9 (0.4 to 2.1)	0.5 (0.1 to 2.1)	62
West Midlands	31.4 (20.9 to 43.6)	3.2 (1.8 to 5.8)	0.6 (0.1 to 3.2)	70
Age group		p<0.001	p<0.001	
Under 25	4.5 (1.8 to 9.0)	1	1	156
25–29	18.9 (11.6 to 28.3)	5.0 (2.0 to 12.4)	10.4 (2.3 to 47.0)	95
30–34	17.7 (10.7 to 26.8)	4.6 (1.8 to 11.5)	11.0 (2.0 to 60.4)	96
35–39	25.5 (13.9 to 40.3)	7.3 (2.7 to 19.9)	19.5 (2.8 to 136.8)	47
40+	22.4 (13.1 to 34.2)	6.1 (2.4 to 15.9)	41.3 (5.9 to 287.6)	67
Region of birth		p<0.001	p=0.02	
Eastern Africa	25.4 (19.6 to 31.8)	1	1	209
Horn of Africa	4.2 (1.4 to 9.6)	0.1 (0.1 to 0.3)	0.2 (0.1 to 0.9)	118
Southern Africa	33.3 (15.6 to 55.3)	1.5 (0.6 to 3.6)	1.7 (0.3 to 8.2)	24
Central Africa	11.4 (3.2 to 26.7)	0.4 (0.1 to 1.1)	1.9 (0.4 to 10.4)	35
Western Africa	6.2 (1.7 to 15.0)	0.2 (0.1 to 0.6)	0.5 (0.1 to 2.2)	65
Other and outside Africa	0 (0 to 10.6*)	0 (–)	–	33
Marital status		p=0.01	p<0.001	
Married (partner abroad)	6.1 (0.7 to 20.2)	0.4 (0.1 to 1.7)	0.2 (0.0 to 1.2)	33
Married	9.6 (4.9 to 16.5)	0.6 (0.3 to 1.3)	0.0 (0.0 to 0.2)	115
Widowed/separated/divorced	33.3 (19.1 to 50.2)	3.0 (1.4 to 6.4)	0.5 (0.1 to 1.8)	39
Living with partner	17.9 (7.5 to 33.5)	1.3 (0.5 to 3.2)	0.3 (0.1 to 1.5)	39
In relationship	18.9 (9.4 to 32.0)	1.4 (0.6 to 3.0)	0.4 (0.1 to 1.6)	53
Single	14.5 (10.0 to 20.0)	1	1	207
STI clinic attendance		p<0.001		
⩽5 years ago	27.2 (20.7 to 34.6)	4.3 (2.5 to 7.4)	–	169
>5 years ago	14.8 (4.2 to 33.7)	2.0 (0.6 to 6.2)	–	27
Never attended	8.0 (5.2 to 11.8)	1	–	286
STI diagnosis		p<0.001	p=0.01	
⩽5 years ago	34.2 (23.5 to 46.3)	4.4 (2.4 to 7.8)	3.7 (1.2 to 10.8)	73
> 5 years ago	31.8 (13.9 to 54.9)	3.9 (1.5 to 10.2)	5.1 (1.2 to 21.2)	22
Never STI diagnosis	10.6 (7.7 to 14.1)	1	1	386
No. new partners in past 12 months		p=0.01	p=0.06	
0	15.7 (11.8 to 20.3)	1	1	305
1	11.8 (5.6 to 21.3)	0.7 (0.3 to 1.5)	0.6 (0.2 to 1.9)	76
2	50.0 (26.0 to 74.0)	5.4 (2.0 to 14.2)	8.7 (1.1 to 66.9)	18
3+	7.7 (0.2 to 36.0)	0.4 (0.1 to 3.5)	0 (–)	13
Gender of sex partners in past 12 months		p=0.002		
Homo/bisexual	0 (0 to 9.5)	0 (–)	–	37
Heterosexual	17.4 (13.8 to 21.5)	1	–	397
Site of recruitment		p=0.54	p=0.28	
Social network (+weddings and christenings)	13.5 (7.4 to 22.0)	1.0 (0.5 to 2.1)	0.5. (0.2 to 1.5)	96
Churches	10.5 (1.3 to 33.1)	0.8 (0.2 to 3.5)	0.1 (0.0 to 2.3)	19
University/college	3.1 (0.1 to 16.2)	0.2 (0.0 to 1.6)	1.2 (0.1 to 13.9)	32
Pubs, restaurants, bars, nightclubs	12.5 (1.6 to 38.3)	0.9 (0.2 to 4.3)	0.4 (0.1 to 2.3)	16
Barbers, hairdressers, markets, shops	6.3 (0.2 to 30.2)	0.4 (0.1 to 3.4)	–	16
Events, concerts, football	13.2 (9.2 to 18.2)	1	1	242
Other	22.2 (6.4 to 47.6)	1.9 (0.6 to 6.1)	2.3 (0.4 to 14.7)	18

*One-sided 97.5% confidence interval; †adjusted for area, age-group, region of birth, marital status, STI diagnosis, no. new partners in past 12 months and site of recruitment.

and borderline significance with number of new sexual partners. Of the 141 respondents who tested HIV positive, 51 reported having never previously tested, 28 reported their last HIV test to be negative, and 14 reported they did not know the last HIV test result. Thus, 66.0% (93 of 141) of the HIV antibody positive respondents were undiagnosed. Of the total sample, 9.2% (93/1006) had undiagnosed HIV infection, while 4.8% (48/1006) had diagnosed HIV infection (see web appendix figure 4 for more detail at http://sti.bmj.com/supplemental).

DISCUSSION

In this sample of black African men and women attending social and commercial venues in London, Luton and the West Midlands, 14.0% were infected with HIV. HIV prevalence varied between sub-groups, and was high in respondents with a previous STI diagnosis, in men born in East Africa or recruited in pubs, bars, restaurants or nightclubs and in women aged over 25 years, born in East or Southern Africa or who had had

two or more new sexual partners in the past 12 months. Of note was the high percentage who reported a previous HIV test (46.7%). Despite this, we identified a substantial proportion of participants (nearly 1 in 10) with undiagnosed HIV infection; about two-thirds of the infections identified were undiagnosed.

The HIV prevalence within this study demonstrates the disproportionate burden of infection among black Africans in Britain,[1] [2] with most respondents having been born in East and Southern Africa, representing the demographic of Africans living in the UK[13] and where the HIV epidemic is most intense.[16] As found in other studies of Africans in Britain, our respondents were more likely to be young, highly educated and single than the UK's general population.[5] [17] [18] However, for the first time, our study documents the sexual diversity of the population, with 5.8% of men and 5.4% of women reporting same-sex partners only. In addition, we found evidence of substantial sexual health need within this community: nearly 1 in 5 reported having had a previous STI diagnosis and 1 in 2 a

Table 4 HIV prevalence and associations with characteristics of male participants

Variable	Males			
	HIV prevalence % (95% CI)	OR (95% CI)	Adjusted OR (95% CI)†	Base
All respondents	13.1 (10.2 to 16.3)	–	–	513
Area		p = 0.07	p = 0.58	
London	12.6 (9.3 to 16.6)	1	1	342
Luton	9.0 (4.2 to 16.4)	0.7 (0.3 to 1.5)	0.6 (0.2 to 2.1)	100
West Midlands	21.1 (12.3 to 32.4)	1.9 (1.0 to 3.6)	0.5 (0.1 to 2.3)	71
Age group		p = 0.02	p = 0.43	
Under 25	8.1 (4.1 to 14.1)	1	1	135
25–29	8.8 (4.1 to 16.1)	1.1 (0.4 to 2.7)	0.9 (0.2 to 3.6)	102
30–34	14.0 (7.4 to 23.1)	1.8 (0.8 to 4.4)	2.0 (0.5 to 8.9)	86
35–39	21.1 (12.5 to 31.9)	3.0 (1.3 to 6.9)	3.6 (0.8 to 17.0)	76
40+	19.7 (11.2 to 30.9)	2.8 (1.2 to 6.5)	1.8 (0.3 to 9.5)	71
Region of birth		p<0.001	p = 0.001	
Eastern Africa	21.8 (16.6 to 27.7)	1	1	225
Horn of Africa	2.7 (0.6 to 7.6)	0.1 (0.0 to 0.3)	0.0 (0.0 to 0.3)	112
Southern Africa	18.2 (5.2 to 40.3)	0.8 (0.3 to 2.5)	0.4 (0.1 to 2.7)	22
Central Africa	7.1 (1.5 to 19.5)	0.3 (0.1 to 0.9)	0.2 (0.0 to 1.5)	42
Western Africa	7.0 (2.3 to 15.7)	0.3 (0.1 to 0.7)	0.5 (0.1 to 2.0)	71
Other and outside Africa	10.7 (2.3 to 28.2)	0.4 (0.1 to 1.5)	0.4 (0.1 to 2.4)	28
Marital status		p = 0.04	p = 0.70	
Married (partner abroad)	18.0 (8.6 to 31.4)	2.2 (0.9 to 5.2)	0.9 (0.2 to 4.1)	50
Married	15.9 (10.0 to 23.4)	1.9 (1.0 to 3.7)	1.0 (0.3 to 3.7)	126
Widowed/separated/divorced	31.3 (11.0 to 58.7)	4.5 (1.4 to 14.4)	1.8 (0.3 to 12.4)	16
Living with partner	18.4 (7.7 to 34.3)	2.2 (0.9 to 5.8)	1.4 (0.3 to 6.2)	38
In relationship	8.6 (3.2 to 17.7)	0.9 (0.4 to 2.4)	0.4 (0.1 to 1.8)	70
Single	9.1 (5.6 to 13.9)	1	1	208
STI clinic attendance		p<0.001		
⩽5 years agp	21.9 (15.7 to 29.3)	2.7 (1.6 to 4.6)	–	155
>5 years ago	3.6 (0.1 to 18.3)	0.4 (0.0 to 2.7)	–	28
Never attended	9.5 (6.5 to 13.3)	1	–	315
STI diagnosis		p<0.001	p = 0.001	
⩽5 years ago	32.2 (20.6 to 45.6)	4.6 (2.4 to 8.7)	5.4 (1.8 to 16.5)	59
>5 years ago	22.9 (10.4 to 40.1)	2.9 (1.2 to 6.7)	6.4 (1.6 to 26.1)	35
Never STI diagnosis	9.4 (6.7 to 12.7)	1	1	405
No. new partners in past 12 months		p = 0.92	p = 0.99	
0	13.0 (9.0 to 17.8)	1	1	247
1	15.3 (7.9 to 25.7)	1.2 (0.6 to 2.5)	1.1 (0.4 to 3.7)	72
2	13.0 (4.9 to 26.3)	1.0 (0.4 to 2.6)	1.4 (0.4 to 5.4)	46
3+	16.3 (6.8 to 30.7)	1.3 (0.5 to 3.2)	1.1 (0.3 to 4.4)	43
Gender of sex partners in past 12 months		p = 0.12		
Homo-/bisexual	22.2 (10.1 to 39.2)	2.0 (0.9 to 4.6)	–	36
Heterosexual	12.6 (9.6 to 16.1)	1	–	436
Site of recruitment		p = 0.15	p = 0.002	
Social network (+ weddings and christenings)	8.7 (3.8 to 16.4)	0.7 (0.3 to 1.7)	0.2 (0.1 to 0.6)	92
Churches	5.9 (0.1 to 28.7)	0.5 (0.1 to 3.7)	0.2 (0.0 to 2.6)	17
University/college	6.3 (1.8 to 15.5)	0.5 (0.2 to 1.5)	0.1 (0.0 to 0.6)	63
Pubs, restaurants, bars, nightclubs	23.8 (12.1 to 39.5)	2.3 (1.0 to 5.4)	1.3 (0.4 to 4.3)	42
Barbers, hairdressers, markets, shops	4.3 (0.1 to 21.9)	0.3 (0.0 to 2.6)	–	23
Events, concerts, football	11.8 (7.7–17.0)	1	1	204
Other	12.5 (1.6–38.3)	1.1 (0.2–5.0)	0.4 (0.0–4.8)	16

*One-sided 97.5% confidence interval; †adjusted for area, age group, region of birth, marital status, STI diagnosis, no. new partners in past 12 months and site of recruitment.

previous HIV test. Despite this need, a substantial proportion of respondents were unaware of their HIV infection. That more respondents perceived their HIV status to be positive than those reporting a positive test result suggests a lack of testing and/or result collection among those who may be worried about their status. These findings support targeted prevention strategies aimed at intensifying efforts to promote repeat HIV testing and collection of test results. Other studies have confirmed the delays in healthcare access and late diagnosis of HIV infection among Africans in Britain.[2 19–21]

This study represents one of the largest community recruited samples of Africans in Britain, doubling the numbers recruited in the initial 1999 survey,[5] and for the first time community-survey and HIV seroprevalence data on Africans resident inside and outside London has been collected. We successfully built on the participatory model of research; trained African field workers were used to recruit participants, facilitated tremendously by a community consultant (WS-S) who greatly improved linkages with the African communities.

As with similar studies of this nature, it is acknowledged that sampling and selection bias might have affected the estimates of HIV infection and risk behaviours.[22–24] The response rate could be an overestimate if refusals were not accurately logged, although we are confident that field workers were conscientious in recording this information. Respondents recruited from bars, football matches and community events are potentially more likely to be young, single and educated. As well, only English- and French-speaking Africans were sampled, and so the study findings might not generalise to those who do not speak these languages. It is also unclear as to the degree to which the experiences of these respondents can be generalised to Africans residing in less ethnically dense areas. The 74% participation rate for the provision of a sufficient oral fluid sample compares favourably with those reported by other venue-based HIV prevalence studies.[10] However, HIV prevalence and related risk behaviours might have differed between participants and refusals, and because we have no data to document this, it is not possible to determine whether our results might be over- or underestimates.

Despite the above limitations, the information derived from this study provides useful information for targeting health promotion activities, informs future research, and provides a continued comparator to behavioural surveys. Comparison of our data with other unlinked anonymous seroprevalence data from sexual health and antenatal clinic attendees will provide improved HIV prevalence estimates among African communities in England.[25] A key element of future analyses will be to understand the changing patterns of behaviour between the two Mayisha surveys (1999 and 2004), taking into consideration the different sample populations and locations.[5 6] Comparison of our data with data derived from Natsal 2000[7 8] will also help to estimate how representative the Mayisha II findings are of the UK black African population.[26]

Well into the third decade of the epidemic, interventions designed to prevent HIV infection must take into account the enormous heterogeneity of black African communities living in the UK. Our study confirms relatively high HIV prevalence among black Africans, many of whom have migrated from high-prevalence areas of sub-Saharan Africa, and yet are often unaware of their HIV serostatus. Our findings indicate that current efforts to promote HIV testing and awareness of HIV serostatus among black Africans living in the UK should be further strengthened and culturally competent education programmes promoting risk reduction strategies must continue. They are important tools in promoting early diagnosis, preventing onward transmission and reducing HIV-associated morbidity and mortality within this population.

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REFERENCES
1 **The UK Collaborative Group for HIV and STI Surveillance**. *Mapping the issues. HIV and other sexually transmitted infections in the United Kingdom: 2005.* London: Health Protection Agency Centre for Infections, 2005:1–81.
2 **The UK Collaborative Group for HIV and STI Surveillance**. *A complex picture. HIV and other sexually transmitted infections in the United Kingdom: 2006,* Health Protection Agency, Centre for Infections.London, November, 2006.
3 **Department of Health**. *The national strategy for sexual health and HIV: implementation action plan,* Crown Copyright, 2002:1–17.
4 **National AIDS Trust**. *HIV prevention and African communities living in England. A framework for action. Final draft.* London: National AIDS Trust, 2001.
5 **Fenton KA**, Chinouya M, Davidson O, *et al.* HIV testing and high risk sexual behaviour among London's migrant African communities: a participatory research study. *Sex Transm Infect* 2002;**78**:241–5.
6 **Fenton KA**, Chinouya M, Davidson O, *et al.* HIV transmission risk among sub-Saharan Africans in London travelling to their countries of origin. *AIDS* 2001;**15**:1442–5.
7 **Johnson AM**, Mercer CH, Erens B, *et al.* Sexual behaviour in Britain: partnerships, practices, and HIV risk behaviours. *Lancet* 2001;**358**:1835–42.
8 **Fenton KA**, Mercer CH, McManus S, *et al.* Ethnic variations in sexual behaviour in Great Britain and risk of sexually transmitted infections: a probability survey. *Lancet*, 2005 Apr 2–8, **365**:1246–55.
9 **Dodds JP**, Mercey D. *London Gay Men's Survey: 2001 results.* London: Royal Free and University College Medical School).
10 **Dodds JP**, Mercey DE, Parry JV, *et al.* Increasing risk behaviour and high levels of undiagnosed HIV infection in a community sample of homosexual men. *Sex Transm Infect* 2004;**80**:236–40.
11 **Sadler KE**, McGarrigle CA, Elam G, *et al.* Mayisha II: pilot of a community-based survey of sexual attitudes and lifestyles and anonymous HIV testing within African communities in London. *AIDS Care*, 2006 May, **18**:398–403.
12 **MAYISHA II Collaborative Group**. *Assessing the feasibility and acceptability of community based prevalence surveys of HIV among black Africans in England.* London: Health Protection Agency, Centre for Infections, 2005.
13 **Office for National Statistics**. *National Census information on Africans in the UK,* Office for National Statistics, 2001.
14 **Parry JV**, Perry KR, Mortimer PP. Sensitive assays for viral antibodies in saliva and alternative tests to serum. *Lancet* 1987;**2**:72–5.
15 **Connell JA**, Parry JV, Mortimer PP, *et al.* Novel assay for the detection of immunoglobulin G antihuman immunodeficiency virus in untreated saliva and urine. *J Med Virol* 1993;**41**:159–64.
16 **UNAIDS/WHO**. *AIDS epidemic update: December 2005.* Geneva: UNAIDS/WHO, 2005.
17 **McMunn AM**, Mwanje R, Paine K, *et al.* Health service utilization in London's African migrant communities: implications for HIV prevention. *AIDS Care* 1998;**10**:453–62.

18 **Anderson J**, Doyal L. Women from Africa living with HIV in London: a descriptive study. *AIDS Care* 2004;**16**:95–105.
19 **Boyd AE**, Murad S, O'Shea S, *et al.* Ethnic differences in stage of presentation of adults newly diagnosed with HIV-1 infection in south London. *HIV Med*, 2005 Mar, **6**:59–65.
20 **Burns F**, Fenton KA. Access to HIV care among migrant Africans in Britain. What are the issues? Psychol Health Med, 2006;**11**:117–25.
21 **Burns FM**, Imrie JY, Nazroo J, *et al.* Why the(y) wait? Key informant understandings of factors contributing to late presentation and poor utilization of HIV health and social care services by African migrants in Britain. *AIDS Care* 2007;**19**:102–8.
22 **Elford J**, Ibrahim F, Bukutu C, *et al.* Sexual behaviour of people living with HIV in London; implications for HIV transmission. *AIDS*, 2006;**20**(Suppl 1), S1–S8.
23 **Burns F**, Fenton KA, Morison L, *et al.* Factors associated with HIV testing among black Africans in Britain. *Sex Transm Infect* 2005;**81**: 494–500.
24 **Schroder KE**, Carey MP, Vanable PA. Methodological challenges in research on sexual risk behavior: II. Accuracy of self-reports. *Ann Behav Med* 2003;**26**:104–23.
25 **McGarrigle CA**, Cliffe S, Copas AJ, *et al.* Estimating adult HIV prevalence in the UK in 2003: the direct method of estimation. *Sex Transm Infect* 006;(Suppl 3):iii78–86.
26 **Dodds JP**, Mercer CH, Mercey DE, *et al.* Men who have sex with men: a comparison of a probability sample survey and a community based study. *Sex Transm Infect* 2006;**82**:86–7.

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