Over fifty and living with HIV in London

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Abstract

Objective: To examine age at diagnosis, sexual behaviour and some social characteristics of people living with HIV in London who are over the age of fifty, with particular reference to gay men.

Methods: Patients with HIV infection attending NHS outpatient clinics in north east London between June 2004-June 2005 were asked to complete a confidential, self-administered questionnaire.

Results: 1687 people with diagnosed HIV were recruited (63% response rate) including 758 gay men, 480 black African heterosexual women and 224 black African heterosexual men. Just over ten percent of the whole sample (184/1687, 10.9%) were aged 50 years or above; gay men 13.1%, black African heterosexual men 8.5%, black African heterosexual women 6.9% ($p<0.01$). A third of the HIV positive gay men over 50 were diagnosed with HIV in their 50s or 60s (33.3%, 32/96). Overall, one-in-five HIV positive gay men (20.1%, 144/715) reported high risk sexual behaviour in the previous 3 months. This did not vary significantly by age ($p=0.2$).

Conclusion: In this study of people living with HIV in London, one-in-seven gay men were over the age of 50. A third of the HIV positive gay men over 50 were diagnosed in their fifties or sixties, highlighting that this group is not just an ageing cohort of people who were diagnosed in their thirties or forties. Positive prevention programmes should target HIV positive gay men of all ages since older gay men with HIV were just as likely to report high risk sexual behaviour as younger men.

Over fifty and living with HIV in London

Introduction

Since the introduction of highly active antiretroviral therapy (HAART), there has been a two-fold increase in the number of people living with HIV in the UK, reflecting improved survival among those on treatment. Particularly notable is the increase in the number of older people living with HIV. Between 1997 and 2005, the number of people over the age of 50 living with HIV in the UK increased from twelve hundred to just over six thousand (1).

Gay men and black African heterosexual men and women are the people most affected by HIV in the UK, making up eighty percent of people living with HIV in this country (2). It is gay men, however, who remain the group at greatest risk of acquiring HIV in the UK accounting for nearly two-thirds of new infections that occurred here in 2006 (2).

A growing body of research among older people living with HIV has emerged from the USA in the last few years (3-9). However, relatively little is known about this group in the UK (10). Most gay men living with HIV in the UK were born here while the majority of HIV positive black African heterosexual men and women in the UK are first generation migrants (11). As a consequence, the experiences of older gay men and older black African heterosexual men and women living with HIV in this country are likely to be quite different (9). In this paper we examine age at diagnosis, sexual behaviour and some of the social characteristics of people living with HIV in London over the age of 50, paying particular attention to older gay men.

Methods

In the UK, the majority of patients with diagnosed HIV infection seek treatment and care in National Health Service (NHS) outpatient clinics (2). Between June 2004 and June 2005, people with diagnosed HIV infection aged 18 years and above receiving treatment and care in six NHS hospital outpatient clinics in north east London were invited to participate in the study. After providing written consent, they were asked to complete a confidential, self-administered, pen-and-paper questionnaire in the clinic or at home. Patients with a limited command of English were ineligible as were those who were too ill or too distressed to complete a questionnaire. Ethics committees for the participating hospitals approved the research protocol. The methods have been described in detail elsewhere (12).

Respondents were asked to provide information on their age, sex, sexual orientation, ethnicity, education, employment, if they were in a relationship, whether they had had unprotected anal or vaginal intercourse in the previous 3 months and, if so, the type (main or casual) and HIV status of their sexual partner(s). They were also asked when they were diagnosed with HIV, whether they were on antiretroviral therapy, their most recent (self reported) CD4 count and CD4 count at diagnosis. In addition, respondents were asked whether they had used recreational drugs or looked for sex through the Internet in the last 12 months, whether they had felt depressed in the last 3 months and whether they had enough money to meet their basic needs.

Statistical analysis

Data were analysed using STATA version 9.2. Analyses were initially conducted separately for white gay or bisexual men (referred to here as “gay men”), ethnic minority gay men, black African heterosexual men and black African heterosexual

women. Because of small numbers, white and ethnic minority gay men were combined for a number of analyses. Chi-squared, Fisher's exact and Kruskal-Wallis tests were used for examining differences in proportions and medians between the groups.

The association between age and the sociodemographic, behavioural or clinical variables described above was initially examined in a univariate logistic model for gay men only. In the model, age was the independent variable while the sociodemographic, behavioural or clinical variable (eg percentage on treatment or percentage reporting unprotected sex) was the dependent (outcome) variable. Age was entered in the model as a categoric variable (<20, 20-29, 30-39, 40-49, >=50). Dependent variables found to be significantly related to age in univariate analysis were entered into a multivariate model, controlling for known confounding factors (11;13-16). These analyses were not conducted for black African heterosexual men and women or for other respondents because of the small number of people over the age of 50 in these groups.

In the Results section, we present data on the age distribution and age at HIV diagnosis for the whole sample as well as for gay men and black African heterosexual men and women separately. However, data on CD4 cell count, antiretroviral treatment, sexual behaviour and social circumstances are presented only for gay men because of the small number of black African heterosexual men and women over the age of 50.

Results

Sample

During the study period, 2680 individual patients attended the HIV outpatient clinics in the six hospitals; 2299 were eligible for the study and 1687 completed and returned a questionnaire (response rate 73% of eligible patients, 63% of all patients). Gay men (n=758), black African heterosexual women (n=480) and black African heterosexual men (n=224) accounted for 87% of the respondents (1462/1687). Of the 758 gay men, 646 described themselves as white while 112 were ethnic minority (ie non-white) from diverse backgrounds including black Caribbean (26), black African (13), Indian, Pakistani and Bangladeshi (9) and "mixed/other" (57). The remaining respondents, comprised white heterosexual men (n=64) and women (39); black Caribbean heterosexual men (13) and women (26); heterosexual men (21) and women (36) of "other black", Asian or "mixed/other" backgrounds and 26 bisexual women or lesbians of different ethnicities.

Over 50s

Overall 10.9% (184/1687) of the respondents were aged 50 years or more (referred to in this paper as the "over 50s"); 8.3% of the sample (n=140) were aged 50-59 years while 2.6% (n=44) were aged 60 years or more (table 1).

Fourteen percent of white gay men were over 50 compared to 6.3% of ethnic minority gay men, 8.5% of black African heterosexual men and 6.8% of black African heterosexual women ($p<0.01$) (table 1). In all groups, the majority of the over 50s were aged 50-59 years, with relatively few aged 60 years or more. The oldest respondent was a 72 year old white gay man diagnosed with HIV when he was 58.

The over 50s: age at diagnosis

For the study group as a whole, 40.3% of the over 50s were aged fifty years or more when they were diagnosed with HIV, 44.9% were in their forties and 14.2% in their thirties (table 2). This pattern varied between groups. Among the over 50s, a third of gay men (33.3%) were diagnosed with HIV in their fifties or sixties compared with nearly half the black African heterosexual men (47.1%) and women (51.6%) ($p<0.01$) (table 2).

Table 1. Age distribution of the sample

Current age	Gay men				Black African heterosexual men and women				Whole sample*	
	White		Ethnic minority		Males		Females			
	n	%	n	%	n	%	n	%	n	%
<20**	1	0.2	0	0.0	1	0.5	6	1.25	9	0.5
20-29	50	7.7	20	17.9	22	9.8	90	18.8	219	13.0
30-39	281	43.5	53	47.3	102	45.5	236	49.2	768	45.5
40-49	222	34.4	32	28.6	80	35.7	115	24.0	507	30.1
50-59	68	10.5	6	5.4	13	5.8	28	5.8	140	8.3
>=60	24	3.7	1	0.9	6	2.7	5	1.0	44	2.6
All ages	646	100.0	112	100.0	224	100.0	480	100.0	1687	100.0

* “Whole sample” includes gay men, black African heterosexual men and women as well as heterosexual men and women of black Caribbean, white, Asian, “other black” or “mixed/other” ethnicities, bisexual women and lesbians.

** 18-19 years of age only since the study was restricted to adults over the age of 18 years

Table 2. The over 50s: age at HIV diagnosis

Age at diagnosis	Gay men*		Black African heterosexual men		Black African heterosexual women		Whole sample**	
	n	%	n	%	n	%	n	%
20-29	1	1.0	0	0.0	0	0.0	1	0.6
30-39	20	20.8	0	0.0	0	0.0	25	14.2
40-49	43	44.8	9	52.9	15	48.4	79	44.9
>=50	32	33.3	8	47.1	16	51.6	71	40.3
All	96	100.0	17	100.0	31	100.0	176	100.0

Among the over 50s, data on age at diagnosis were available for 96/99 gay men, 17/19 black African heterosexual men, 31/33 black African women and 176/184 of the whole sample.

* white and ethnic minority gay men combined

** “Whole sample” includes gay men, black African heterosexual men and women as well as heterosexual men and women of black Caribbean, white, Asian, “other black” or “mixed/other” ethnicities, bisexual women and lesbians.

CD4 cell count

Among gay men, there was an inverse association between age at diagnosis and CD4 cell count at diagnosis (age at diagnosis 20-29 years, median CD4 cell count at diagnosis 400 cells/mm^3; 30-39 years, 311; 40-49 years, 250; >=50 years, 159; p<0.01). There was also an inverse association between current age and CD4 cell count at diagnosis (p<0.01). On the other hand, there was no association between current age and current CD4 cell count (p=0.2).

Antiretroviral treatment

The percentage of gay men on antiretroviral treatment increased with age: 20-29 years, 50.0%; 30-39 years, 64.3%; 40-49 years, 79.7%; >=50 years 83.8% (p<0.001). The association between age and antiretroviral treatment remained significant in multivariate analysis after controlling for CD4 cell count at diagnosis and time since diagnosis: adjusted odds ratio (aOR) 1.05, 95% confidence interval (CI) 1.01, 1.09, p<0.05).

Sexual behaviour

Among the 758 HIV positive gay men in the study, 715 men provided information on unprotected anal sex in the previous three months. Of the 715 men, 144 (20.1%) reported unprotected anal intercourse (UAI) with a partner of unknown or discordant HIV status (117 with a partner of unknown HIV status, 27 with a discordant (ie HIV negative) partner). Most men reported UAI with a casual rather than main partner of unknown or discordant HIV status (13). This did not vary significantly by age (table 3). Among men in their twenties, 21% reported UAI with a partner of unknown or

discordant HIV status, compared with 21% for men in their thirties, 19% among those in their forties and 18% among the over 50s (p=0.4).

Of the 144 men reporting UAI with a partner of unknown or discordant status, 76 provided information on the number of casual UAI partners. Overall, they reported UAI with a median of 3 casual partners of unknown or discordant HIV status in the previous 3 months. There was no significant difference by age in the median number of partners (p=0.8) although the point estimates were raised for people in their twenties and for the over 50s (median number of casual UAI partners of unknown or discordant HIV status: age 20-29 years, 5; 30-39, 3; 40-49, 3; over 50, 4; p=0.8).

A further 98 men HIV positive gay men (13.7%) reported UAI in the previous 3 months but only with a man who, like them, was HIV positive ("serosorting"). Older men were less likely to report serosorting than younger men (p<0.01) (table 3). The association was of borderline significance after controlling for recreational drug use and seeking sex through the Internet in a multivariate model (aOR 0.97, 95% CI 0.94, 0.99, p=0.04). Overall, men reported UAI with a median of 2 HIV positive casual partners in the previous 3 months. This did not differ significantly by age (20-29 years, median = 2; 30-39, 3, 40-49, 2; over 50, 3; p=0.3).

Table 3 HIV positive gay men: unprotected anal intercourse (UAI) in the previous three months by age

Current age	Number of men in age group	UAI with a partner of unknown or discordant HIV status		UAI only with another HIV positive man	
	N[+]	n	%*	n	%*
20-29	62	13	21.0	13	21.0
30-39	320	67	21.0	52	16.3
40-49	242	47	19.4	26	10.7
>=50	90	16	17.8	7	7.8
All ages	714	144	20.1	98	13.7
p**			0.4		<0.05

[+] 715 men provided information on sexual behaviour. The one man who was under 20 years old did not report UAI and has been excluded from the table. Data are for white and ethnic minority gay men combined

* percentages are derived from n/N in each age-group

** p-value for differences by age in each column in a univariate logistic model

Social circumstances

Just over half the HIV positive gay men in the sample said they were currently in a relationship with another man. Although older men were less likely to be in a relationship than younger men the differential was not statistically significant (p=0.3). Older men were also less likely to be employed than younger men (p<0.001) (table 4). This association remained significant after adjusting for time since diagnosis, education and body showing signs of living with HIV (aOR 0.96, 95% CI 0.95-0.99, p<0.01).

Overall, 61.0% of HIV positive gay men said they had felt depressed in the previous three months. There was no significant difference in levels of depression between men in their thirties, forties and the over 50s. However, men in their twenties were significantly more likely to report feeling depressed than other men (p<0.01).

Older men were less likely to use the Internet to meet sexual partners than younger men (table 4, p<0.01). They were also less likely to use recreational drugs (20-29 years, 54.4%; 30-39 year, 53.9%; 40-49 years, 35.6%; >=50 years 14.4%, p<0.001) but more likely to say they had enough money to meet their basic needs (table 4, p<0.05).

There was no significant association between age and HIV disclosure, experiencing side effects because of HIV treatment, having suicidal thoughts or educational attainment (p>0.05) (data available from authors on request).

Table 4 HIV positive gay men: social circumstances by age

Current age	Number of men in age group	In a relationship		Employed		Depressed in last 3 months		Does not have enough money to meet their basic needs		Used the Internet to seek sexual partners in last 12 months	
	N	n	%*	n	%*	n	%*	n	%*	n	%*
20-29	70	41	60.3	42	60.9	51	79.7	15	22.0	35	51.5
30-39	334	177	54.1	205	62.9	192	60.8	42	12.8	138	43.3
40-49	254	125	50.2	139	55.2	141	59.2	22	8.7	94	38.5
>=50	99	46	46.9	34	34.7	51	56.7	7	7.1	19	19.6
All ages	757	389	52.4	420	56.4	435	61.0	86	11.5	286	39.2
p**			0.3		<0.001		0.02		0.02		<0.001

[+] 758 gay men were included in the study. The one man who was under 20 years old has been excluded from the table. Data are for white and ethnic minority gay men combined.

* percentages are derived from n/N in each age-group. Denominators vary slightly from column to column because of missing data on each variable

** p-value for differences by age in each column in a univariate logistic model

Discussion

In this sample of people living with HIV in London, approximately one-in-ten were over the age of 50. Among gay men the figure was one-in-seven. Most of the over 50s were aged 50-59 and very few were over 60. This pattern reflects national surveillance data (1) and highlights the fact that "older" people with HIV are still relatively young. For pragmatic reasons 50 is currently used as a cut-off for "older" people living with HIV since raising the threshold to 60 would reduce sample size and statistical power.

Older people living with HIV appear to be made up of two distinct groups: (i) people diagnosed with HIV under the age of 50 who are now living into their fifties and sixties because of HAART ("the ageing cohort") and (ii) people diagnosed with HIV over the age of 50. Those diagnosed with HIV over the age of 50 will include people who were infected with HIV in their thirties and forties but who were only diagnosed over the age of 50 ("late diagnoses") as well as those who were infected over the age of 50 ("late seroconverters") (5;17-19).

In our study, a third of the HIV positive gay men over the age of 50 were diagnosed with HIV in their fifties or sixties. While we were not able to differentiate between "late diagnoses" and "late seroconverters" among these men, it is likely that the sample contained both. Indeed, as many as half the gay men diagnosed with HIV over the age of 50 could have been "late seroconverters". Estimates based on national HIV surveillance data for England, Wales and Northern Ireland for 2000-2007 suggest that 44% of newly diagnosed older gay men were infected with HIV when aged 50 years and over. "Older" refers here to people diagnosed with HIV at the age of 50 or above (20).

Among gay men in our study we found an inverse association between age at diagnosis and CD4 count at diagnosis; those diagnosed over the age of 50 had a lower CD4 cell count at diagnosis than those diagnosed in their twenties, thirties or forties. This provides evidence of late presentation among some of those diagnosed with HIV over the age of 50. Our findings are consistent with national surveillance data which indicate that the percentage of people with HIV who are diagnosed late (with a CD4 count less than 200 cells/mm3) increases with age (17;18). Clearly HIV testing should target not just younger but also older people since they are the more likely to remain undiagnosed at present.

That some gay men seroconvert over the age of 50 years raises important, as yet unanswered, questions. These are men who managed to avoid infection with HIV during their thirties and forties yet became infected when they were over 50. What were the circumstances surrounding their "late seroconversion"? The answer to that question will provide an important insight into the HIV risk behaviours of older gay men and help us formulate appropriate primary prevention strategies for this group. Since "late seroconverters" may account for nearly half the gay men diagnosed with HIV over the age of 50, there is an urgent need to answer this question.

In our study, older HIV positive gay men were just as likely to report unprotected anal intercourse with a partner of unknown or discordant HIV status as younger men. This presents a risk for HIV transmission and throws into sharp focus the importance of "positive prevention" programmes targeting older as well as younger gay men living with HIV (21). On the other hand, older men were less likely to serosort than younger men. This appears to be explained by the fact that they were also less likely to use the Internet to seek sexual partners. A number of studies have shown that HIV positive gay men use the Internet for serosorting (22-24).

A limitation of our study is that while the overall sample size was large (n=1687), only 184 people were over the age of 50 of whom 99 were gay men. As a consequence the analysis had limited statistical power. This highlights the need to conduct further research in larger samples of older people living with HIV. Future research should explore, among other things, the general experience of ageing, living with a chronic illness, age-related disease and preparation for retirement (25). The sexual behaviour of older gay men living with HIV should also be explored in other samples. However, research should not only be conducted among older gay men living with HIV in the UK but also among older HIV positive black African heterosexual men and women, a population that has been overlooked to date.

As is the case with much behavioural and social research, our study was based on self-reported data. To minimise social desirability bias, all questionnaires were confidential and anonymised for the analysis which protected individual respondents from being identified.

Our analysis has a number of strengths. The sample comprised a broad cross-section of people with a laboratory-confirmed HIV diagnosis, all coming from a common source (NHS clinics). In the UK, the majority of patients with diagnosed HIV infection seek treatment and care in National Health Service (NHS) outpatient clinics. In this study all respondents were recruited in HIV outpatient clinics in one part of London only (north east London). To what extent can we generalise our findings to people living with HIV in other parts of London? The social, demographic and behavioural characteristics of the gay men in this study are broadly similar to those of HIV positive gay men in outpatient clinics elsewhere in London (26;27). This suggests that our findings may apply to gay men in other parts of the capital.

In conclusion, one-in seven gay men living with HIV in our study were over the age of fifty. Our study highlights the diversity of older people living with HIV. The over 50s with HIV do not simply comprise an ageing cohort of people diagnosed in their thirties and forties but also people diagnosed with HIV over the age of 50. Those diagnosed over the age of 50 include late diagnoses as well as people who seroconverted in their fifties or sixties. This diversity will present a continuing challenge for HIV treatment and prevention among older people living with HIV in the UK. Positive prevention programmes should target HIV positive gay men of all ages since older gay men with HIV were just as likely to report high risk sexual behaviour as younger men.

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Competing interests

None declared

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Contribution of authors

J Elford and J Anderson conceived the study; J Elford, J Anderson and C Bukutu designed the survey questions with input from the advisory panel; C Bukutu was

responsible for questionnaire distribution, data collection and data entry; F Ibrahim for data management and analysis. J Elford and F Ibrahim planned the statistical analysis. J Elford drafted the manuscript. All authors contributed to the interpretation of data and read, revised and approved the final manuscript. Jonathan Elford is the guarantor.

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Key messages

- The number of older people (aged 50 years and above) living with HIV in the UK increased five-fold between 1997 and 2005

- Older people living with HIV are not just an ageing cohort diagnosed in their thirties and forties but also include people infected with HIV in their fifties or sixties

- Older HIV positive gay men are just as likely to report unsafe sex as younger HIV positive gay men

- HIV prevention programmes in the UK should target older gay men, both HIV positive and HIV negative.