Prevalence of cardiovascular risk factors in women ageing with HIV: an analysis of data from the POPPY Study (Pharmacokinetic and Clinical Observations in People Over Fifty)

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POPPY
Pharmacokinetic and clinical observations in people over 50

Background

- Improvements in survival due to advances in antiretroviral therapy (ART) have led to a shift in the age distribution of those receiving HIV care.
- Increasing numbers of older women are accessing HIV services in the UK.
- For postmenopausal women living with HIV, the combined effects of oestrogen depletion and HIV may place them at particular risk of cardiovascular disease (CVD).
- We describe the prevalence of CVD risk factors in women aged ≥50 participating in the POPPY study, exploring the effects of (i) HIV and (ii) menopausal status.

Methods

- The POPPY study is a UK-based prospective cohort study of HIV and ageing.
- It compares people living with HIV (PLHIV) aged ≥50 (n=698) with control populations of PLHIV aged <50 (n=374) and HIV-negative people aged ≥50 (n=304).
- This analysis is based on data from **86** HIV-positive women aged ≥50 and **109** similarly-aged HIV-negative women.
- Women who reported that they had stopped menstruating were defined as "postmenopausal".
- Chi-square tests compared the proportions with a CVD risk in each group.

Results

- The median age of HIV-positive and HIV-negative women was 54 years (range 50-74) and 57 years (range 50-86) respectively (see table 1 for other characteristics); overall, **161** women (83%) were postmenopausal.
- Among HIV-positive women, the median CD4 count was 664 cells/uL (range 58-2460) with most (n=84) being on antiretroviral therapy and having an undetectable HIV viral load (90.6%).
- There were no significant differences in the prevalence of key CVD risk factors by HIV status, either overall or in women who were postmenopausal (table 2).
- Only **12** (16.9%) and **11** (12.1%) of postmenopausal HIV-positive and HIV-negative women were receiving **lipid-lowering drugs** (LLDs, *p*=0.52), with **20** (28.2%) and **16** (17.6%) receiving **anti-hypertensives** (*p*=0.13); many of those not on medication met standard eligibility criteria (figure).

Table 1: Characteristics of women aged ≥50 years at entry to the POPPY Study

	HIV-positive women n= 86	HIV-negative women n=109	*p*-value
Ethnicity			
Black African	58 (67.4)	22 (20.2)	
Caucasian	28 (32.6)	87 (79.8)	0.0001
Marital status			
Married/cohabiting	18 (20.9)	56 (51.4)	
Not in a relationship	68 (79.1)	53 (48.6)	0.0001
Education attainment			
'O' levels or less	22 (25.6)	25 (22.9)	
'A' levels	6 (7.0)	9 (8.3)	
Higher education	58 (67.4)	75 (68.8)	0.88
Employment status			
Employed	32 (37.2)	64 (58.7)	
Not employed	54 (62.8)	45 (41.3)	0.005

Figure: % who could additionally benefit from LLDs or anti-hypertensives

Table 2: Cardiovascular risk factors in women aged ≥50 years at entry to the POPPY Study

	All women >50 years			Postmenopausal women		
	HIV-positive n (%)	HIV-negative n (%)	*p*-value	HIV-positive n (%)	HIV-negative n (%)	*p*-value
N	86	109		71	91	
Body mass index ≥30	32 (37.2)	28 (25.7)	0.12	27 (38.0)	25 (27.5)	0.21
Systolic blood pressure>140mmHg	26 (30.2)	29 (26.6)	0.69	22 (31.0)	26 (28.6)	0.87
Total cholesterol>6 mmol/L	16 (18.6)	31 (38.4)	0.15	15 (21.1)	26 (28.6)	0.37
TC:HDL>5	6 (7.0)	9 (8.3)	0.95	5 (7.0)	8 (8.8)	0.91
Glucose>5.5 mmol/L	11 (12.8)	18 (16.5)	0.60	11 (15.5)	14 (15.4)	1.00
10 year CVD risk ≥10%*	21 (24.4)	23 (21.1)	0.71	21 (29.6)	22 (24.2)	0.55

**Using Framingham Risk Score. TC, total cholesterol; HDL, high-density lipoprotein*

Conclusions

- Within this small cohort, we report similar CVD risk factors among HIV-positive and age-matched HIV-negative women.
- This analysis is limited by small numbers and data on menstrual pattern, which would allow us to categorise menopausal status with greater accuracy.
- However, we found that a substantial number of women with high CVD risk and/or hypertension were not receiving medication for these conditions.
- Clinicians should be aware of CVD risk in women ageing with HIV, and ensure they are screened and treated in accordance with BHIVA guidelines.

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