Prevalence of cardiovascular risk factors among HIV-infected and –uninfected women in the reproductive age in rural South Africa

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Background:

As the risk factors for developing hypertensive disorders of pregnancy largely overlap with those for cardiovascular diseases (CVD), the increasing prevalence of cardiovascular risk factors in Sub-Saharan Africa might increase the risk of complications in HIV-infected pregnancies.

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Aim To determine the **prevalence of CVD risk factors among HIV-infected and HIV-uninfected women in the reproductive age**

Table 1. Characteristics of HIV-infected and –uninfected participants

	Total population			HIV-infected population		
	HIV-infected (N=194)[a]	HIV-uninfected (N=299)[b]	Age adjusted *p*-value	On HAART (N=140)[c]	Not on HAART (N=54)[d]	Age adjusted *p*-value
Demographic factors						
Age (years)	34.1 ± 6.7	28.8 ± 8.2	**<0.001**	35.8 ± 5.7	29.8 ± 7.1	**<0.001**
HIV-related factors						
On HAART	140 (72.2)	-		140 (100.0)	-	
NNRTI-based 1st line	132 (94.3)	-		132 (94.3)	-	
PI-based 2nd line	8 (5.7)	-		8 (5.7)	-	
Lifestyle						
Current smoker	13 (6.7)	23 (7.7)	0.68	10 (7.1)	3 (5.6)	0.76
Alcohol consumer	41 (21.1)	80 (26.8)	0.16	25 (17.9)	16 (29.6)	0.07
Physical inactive	89 (45.9)	169 (56.5)	**<0.05**	62 (44.3)	27 (50.0)	0.47
Physical examination						
Systolic blood pressure	107 [98-118]	108 [100-120]	0.08	105 [98-116]	108.3 [100-123]	0.07
Hypertensive [e]	11 (5.7)	29 (9.7)		5 (3.6)	6 (11.1)	
Body mass index kg/m^2	25.6 ± 6.5	25.9 ± 6.5	0.62	25.6 ± 6.5	25.7 ± 6.6	0.94
Overweight >25	87 (44.8)	153 (51.1)		64 (45.7)	23 (42.6)	
Laboratory values						
CD4 count cells/mm^3	-	-	-	528 ± 235	507 ± 241	0.60
Viral load <50 copies/mL	-	-	-	108 (77.1)	6 (11.1)	**<0.001**
C-reactive protein, mg/l	4.0 [2-10]	3.0 [2-6]	**<0.001**	6.0 [2.0-10.0]	2.0 [2.0-7.3]	**<0.05**
Glucose, mmol/l	4.6 [4.3-5.0]	4.4 [4.1-4.9]	0.88	4.7 [4.3-5.0]	4.5 [4.2-4.9]	0.99
HbA1c%	5.6 [5.3-5.8]	5.5 [5.2-5.8]	0.94	5.6 [5.3-5.8]	5.6 [5.2-5.8]	0.99
Total cholesterol, mmol/l	4.3 ± 1.0	4.0 ± 0.9	**<0.001**	4.4 ± 0.9	3.9 ± 0.9	**<0.001**
Triglycerides, mmol/l	0.9 [0.7-1.3]	0.7 [0.5-1.0]	**<0.001**	1.0 [0.7-1.4]	0.8 [0.6-1.2]	**<0.05**
HDL-C, mmol/l	1.5 ± 0.5	1.3 ± 0.3	**<0.001**	1.5 [1.3-1.8]	1.2 [1.0-1.5]	**<0.001**
LDL-C, mmol/l	2.3 ± 0.8	2.3 ± 0.8	0.47	2.4 ± 0.8	2.2 ± 0.8	0.20
Creatinine, mmol/l	12.3 ± 6.5	14.2 ± 8.2	**<0.05**	11.9 ± 6.2	13.4 ± 7.2	0.19
Microalbumin, mg/l	12.0 [6.0-22.5]	8.0 [5.0-16.0]	**<0.05**	12.2 [6.0-25.9]	10.8 [6.8-17.9]	0.38
Albumin/creat ratio>3.4	32 (16.5)	32 (10.7)	0.06	28 (20.0)	4 (7.4)	**<0.05**

Data are no.(%) of participants, mean±SD or median [interquartile range]

Methods

- Cross-sectional, observational study
- Setting: rural clinic in Limpopo, South Africa.
- Three CVD risk prediction models

Results

The prevalence of CVD risk factors was low.
Most women had 10-year CVD risk scores below 1%.
After age adjustment, no difference in CVD risk scores:

- between HIV-infected group and -uninfected group
- or; group on HAART and treatment naïve patients.

Conclusions

1. **No significant differences in the prevalence of CVD risk factors between the HIV-infected and –uninfected women** of this rural South African population.

2. The prevalence of obesity and physical inactivity highlights the burden of the increase in CVD risk factors in this area.

3. Lifestyle changes and preventive cardiovascular risk management are therefore recommended.

4. Routine prenatal care should be standard care for all women of the reproductive age.

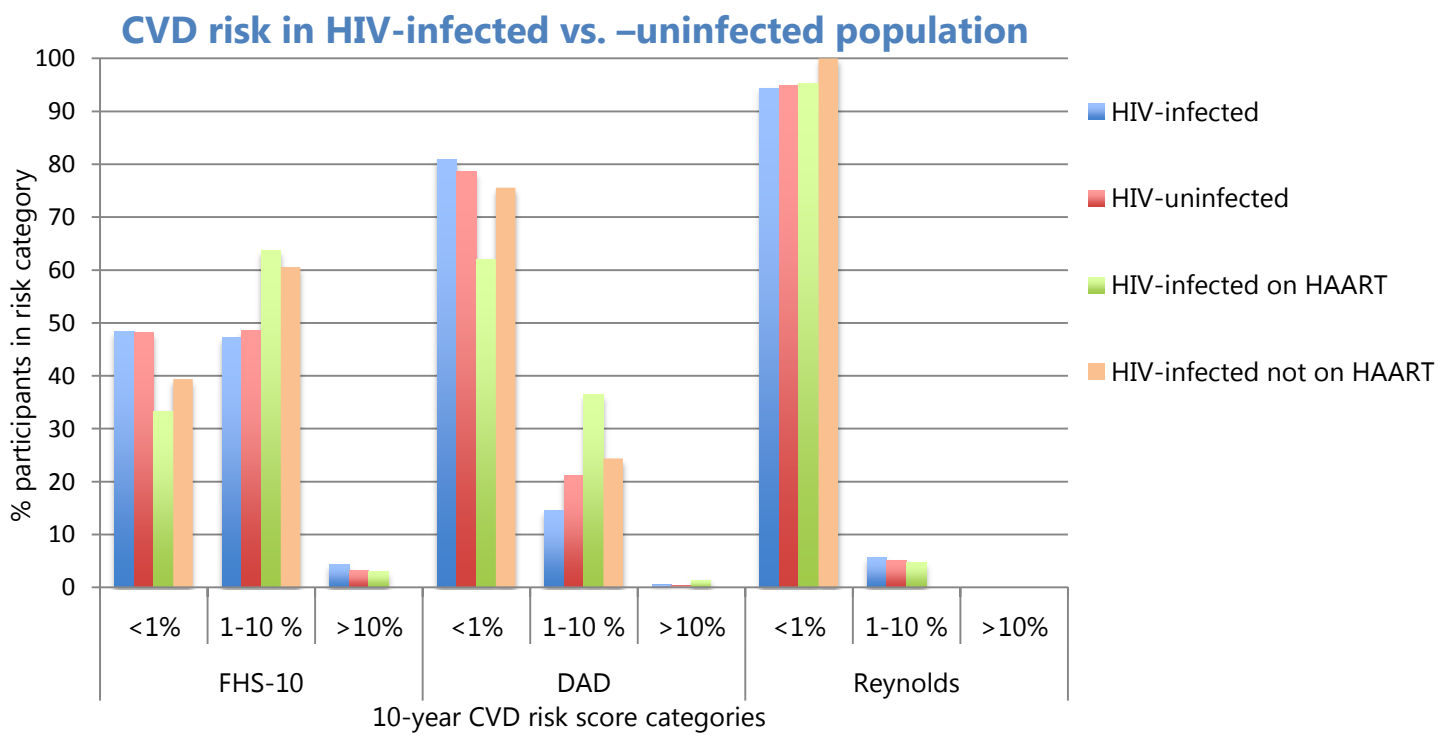

Figure 1. Age adjusted CVD risk scores in HIV-infected vs. –uninfected population.
FHS-10, Framingham 10-year heart risk, DAD, Data collection on Adverse Effects of Anti-HIV Drugs Study.

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