

Examining associations between HIV status and hypertension in a high HIV prevalence population in Manicaland, east Zimbabwe: a cross-sectional study of adults

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Background

- Studies in high income countries indicate that People Living with HIV (PLHIV) experience a higher hypertension prevalence than HIV negative people.^{1,2}
- It is unclear whether this applies in sub-Saharan Africa, where behaviour and healthcare access differ.³
- It is also unclear whether any differences in hypertension prevalence are due to socio-demographic differences between PLHIV and HIV negative people or HIV infection and treatment.^{3,4}
- **We analysed data from Zimbabwe, to test the hypothesis that PLHIV had a higher hypertension prevalence than HIV negative people and to assess how socio-demographic factors affected the relationship.**

Methods

- A cross-sectional study, including interviews and HIV testing, was performed at two urban sites (Sakubva and Hobhouse), a town (Nyazura) and a roadside trading area (Watsomba) between July 2018 and March 2019.
- All young women (15-24 years) and men (15-29 years), and a random sample of 2/3 of older adults were eligible.
- Individuals were considered hypertensive if they reported ever being diagnosed with hypertension by a doctor/nurse.
- Logistic regression was used to estimate Odds Ratios (ORs) for prevalent hypertension, controlling for socio-demographic confounders.
- Weights were used in all analyses to compensate for unequal selection probabilities.

Results

- Among 4,253 participants (2,169 women; 1,235 men), weighted HIV prevalence was 10.8% (95% Confidence Interval, CI=9.7-11.9%).
- There were more women among the PLHIV than the HIV negative people (weighted estimates: 62.5%, 57.2-67.8% vs 53.2%, 52.2-54.2%) and PLHIV were older (>45 years: 40%, 31.8-48.2% vs 25.3%, 23.9-26.6%).
- Weighted hypertension prevalence was higher among PLHIV (20.6%, 16.3-25.0% vs 16.4%, 15.1-17.6%; OR=1.33, 1.01-1.76, p=0.048).
- However, weighted hypertension prevalence was higher in older people and women too (Fig. 1).
- After adjusting for age and gender the difference in weighted hypertension prevalence between PLHIV and HIV negative people was non-significant (OR=0.94, 0.69-1.29, p=0.709).
- Introducing other confounders did not alter this (Table 1).

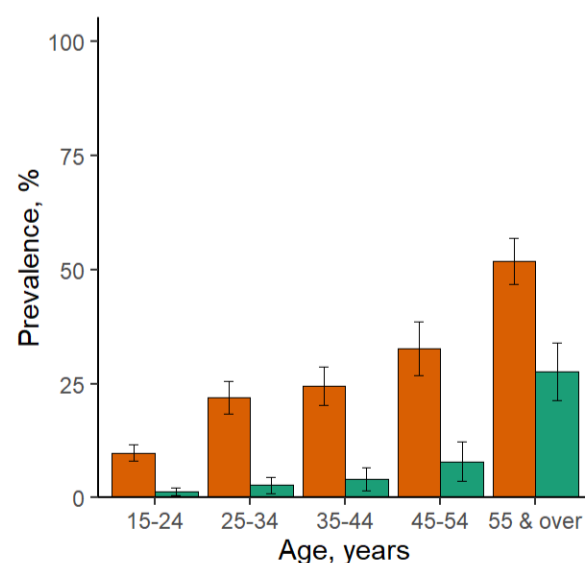


Figure 1. Weighted prevalence of hypertension by age. Orange: Women. Green: Men. Error bars: 95% confidence intervals.

Variable	Odds ratio (95% CI)
HIV status	
Negative	1
Positive	0.93 (0.65-1.32)
Gender	
Male	1
Female	5.98 (4.41-8.10)
Age, years	
15-24	1
25-34	2.31 (1.60-3.32)
35-44	3.01 (2.06-4.40)
45-54	6.04 (4.06-8.99)
55+	19.35 (13.56-27.69)
Site	
Nyazura (town)	1
Sakubva (urban)	2.85 (2.00-4.07)
Hobhouse (urban)	1.38 (0.95-2.01)
Watsomba (roadside trading area)	0.88 (0.65-1.19)
Employment	
Unemployed	1
Employed	0.74 (0.56-0.96)
Marital status	
Single	1
Married/long term partner	1.57 (1.20-2.05)
Wealth	
Poorest	1
Intermediate wealth	1.31 (0.92-1.86)
Least poor	2.15 (1.39-3.34)

Table 1. HIV as a determinant of hypertension.

Conclusions

- Hypertension prevalence was higher among PLHIV than HIV negative people, suggesting that integrated care for HIV and hypertension may be needed.
- The prevalence difference appears to arise from demographic patterns, rather than HIV infection directly, indicating that standard interventions, such as counselling on alcohol consumption, would be effective.
- Future studies should measure participant blood pressure to confirm these findings.

References

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