

# Young adults who acquired HIV perinatally have poorer viral suppression than those who acquired HIV later in life: a population survey in Zimbabwe

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## Background

Young people with HIV may have acquired HIV perinatally or horizontally.

**AIM:** To compare HIV treatment outcomes in young people diagnosed in childhood and adulthood, as a proxy for mode of HIV acquisition (perinatal vs behavioural).

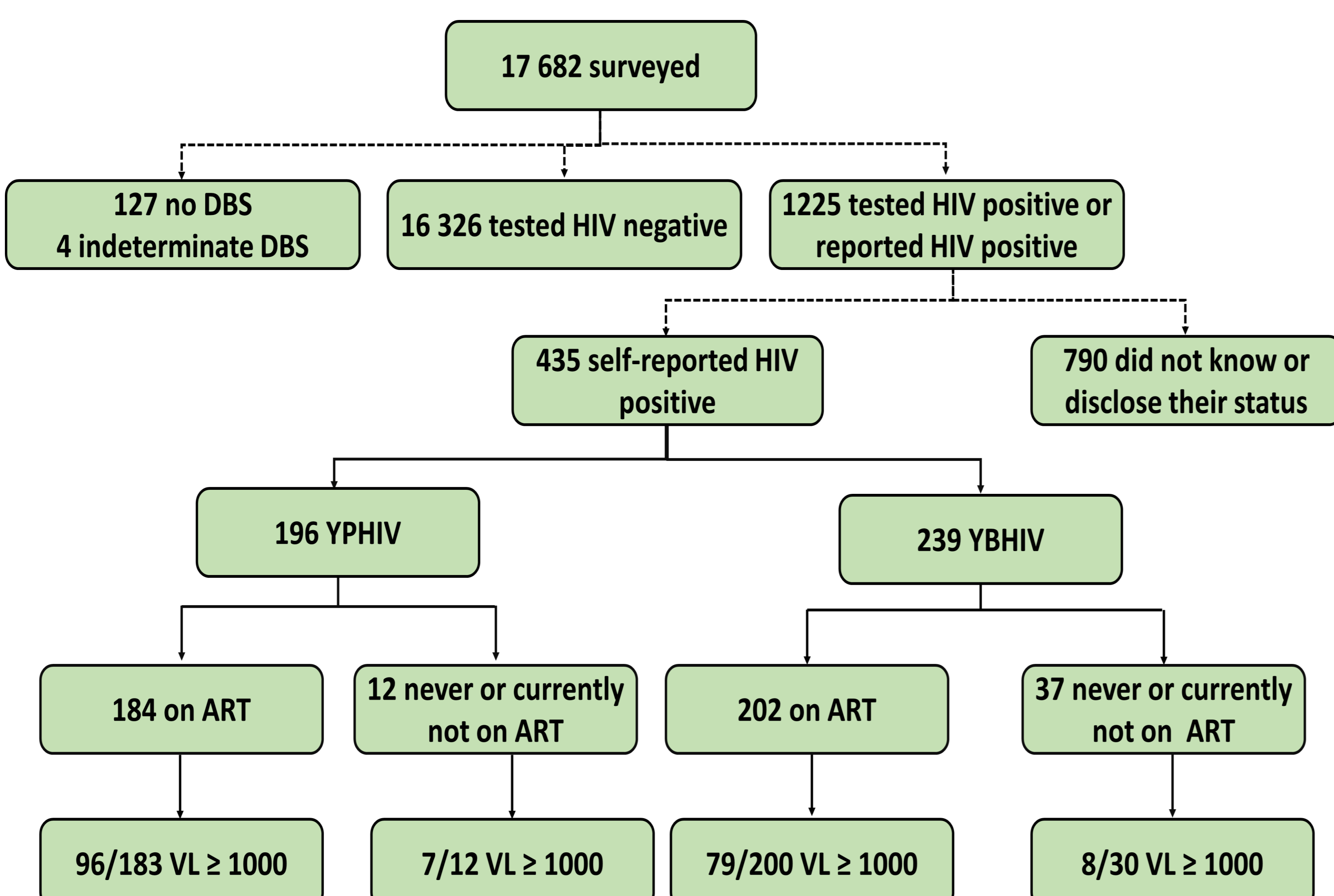
## Methods

- Population-based cross-sectional survey of randomly selected young people aged 18-24 years resident in 24 communities, in 3 provinces in Zimbabwe.
- Knowledge of HIV status and date of HIV diagnosis if HIV positive recorded.
- Dried blood spot taken for HIV antibodies and HIV-1 viral load.
- Multilevel mixed-effects generalized linear modelling to estimate association of mode of HIV acquisition with viral suppression.

## Results

- 17682 participants: 60.8% female, median age 20 years
- HIV prevalence: 6.8%

Figure 1: Participants flowchart



**Young people with perinatally-acquired HIV have worse health outcomes and greater risk of viral non-suppression than peers who acquire HIV in adulthood.**

Table 1: Association of HIV acquisition mode with viral non-suppression

	YBHIV	YPHIV	OR (95% CI)	p
Adjusted for sex, age, marital status and education	39.0%	54.2%	1.83 (1.17-2.85)	0.008

Young people with perinatal-HIV (YPHIV) were more stunted, and less likely to have had sexual debut, be married or been pregnant than those with behavioural HIV (YBHIV).

Table 2: Participant characteristics by mode of HIV acquisition

Variable	YPHIV (196) n (%)	YBHIV (239) n (%)	p	
Sex	Male	46 (23.5)	21 (8.8)	<0.001
	Female	150 (76.5)	218 (91.2)	
Age, years	18-20	99 (50.5)	54 (22.6)	<0.001
	21-24	97 (49.5)	185 (77.4)	
Age of diagnosis, years <sup>1</sup>	Median (IQR)	7 (1-12)	20 (17-21)	0.001
Height for age z-score, (age 18-22) <sup>2</sup>	Mean (SD)	-1.26 (1.05)	-0.72 (1.17)	<0.001
	Stunted	32 (22.1)	11 (9.9)	0.01
Socioeconomic status	Poorest	60 (30.6)	100 (41.8)	0.009
	2	36 (18.4)	50 (20.9)	
	3	34 (17.4)	44 (18.4)	
	4	38 (19.4)	26 (10.9)	
	Least poor	28 (14.3)	19 (8.0)	
Ever had sex <sup>3</sup>	No	75 (38.5)	16 (6.7)	<0.001
	Yes, but not in the past year	27 (13.9)	17 (7.1)	
	1 partner in the past year	79 (40.5)	167 (69.9)	
>1 partner in the past year	14 (7.2)	39 (16.3)		
Ever been pregnant, including currently (women only)	60 (40.0)	172 (78.9)	<0.001	
Condom use (only participants who have had sex in past year)	Use condoms most of the time	52 (55.9)	84 (40.8)	0.015
	Never married	158 (80.6)	97 (40.6)	<0.001
Married or living together	27 (13.8)	101 (42.3)		
Divorced, widowed or separated	11 (5.6)	41 (17.2)		
Previous diagnosis of tuberculosis	Yes	13 (6.6)	4 (1.7)	0.008
Symptoms of common mental health disorder	Shona Symptom Questionnaire ≥8	18 (9.2)	24 (10.0)	0.76

<sup>1</sup>6 missing values, <sup>2</sup>UK based reference standard, <sup>3</sup>1 missing value