STI prevalence among young adults with perinatally vs horizontally acquired HIV: a cross-sectional survey in Zimbabwe

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Background

Young adults may have acquired HIV perinatally or horizontally. The sexual and reproductive health (SRH) needs of these groups may be different.

We compared the STI prevalence of young people who were diagnosed with HIV in childhood and adulthood, as a proxy for route of HIV acquisition i.e. perinatally vs horizontally.

Methods

- A cross-sectional representative population-based survey of young people aged 18-24 years was conducted in 2 provinces, Harare and Bulawayo, to ascertain the outcome of a cluster-randomised trial of community-based integrated HIV and SRH services.
- Participants were asked their HIV status, and if positive, when they were diagnosed. A urine sample was taken from a randomly selected 50% of participants and tested for STIs (chlamydia (CT), gonorrhoea (NG) and trichomoniasis (TV)).
- Generalised linear log-binomial modelling was used to estimate the association between HIV diagnosis and STI prevalence, adjusting for trial arm, age (18-20 vs ≥21 years), sex and sexual debut, with robust standard errors to adjust for clustering.

Results

- 11818 participants were enrolled in 16 clusters; 8318 reported their HIV status at last test and 309 (3.7%) were known HIV positive, of whom 164 had an STI test (Figure 1).
- Adjusting for clustering, 33.7% of youth with an HIV diagnosis were positive for at least one of CT, NG or TV.
- Prevalence of all STIs was higher among youth who were diagnosed with HIV in adulthood ie acquired HIV horizontally (Table 1). After adjusting for confounders, HIV diagnosis in adulthood was associated with increased risk of NG (aRR 1.51, 95% CI 1.15-1.98, p=0.003) but not with CT, TV or all STIs combined. HIV diagnosis was associated with increased risk of all 3 STIs (Table 2).

Figure 1: Participants flowchart

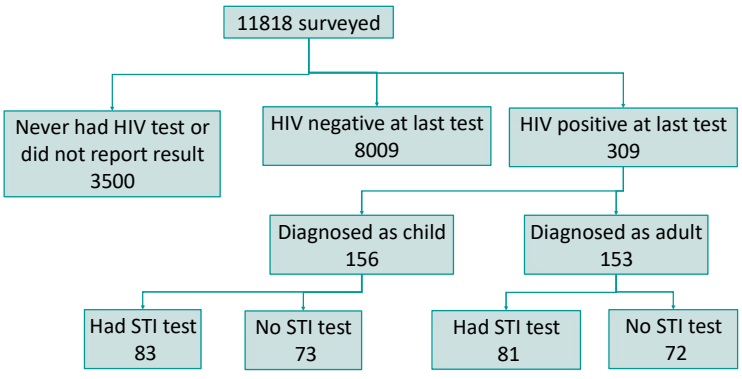

Table 1: Participant characteristics by mode of HIV acquisition

Category	No HIV diagnosis, n (%)	Diagnosed as a child, n (%)	Diagnosed as an adult, n (%)
N	11509	156	153
Sex			
Male	4496 (39.1)	35 (22.4)	9 (5.9)
Female	7012 (60.9)	121 (77.6)	144 (94.1)
Age			
18-20	6030 (52.4)	75 (48.1)	37 (24.2)
21-24	5479 (47.6)	81 (51.9)	116 (75.8)
Age of HIV diagnosis, median (IQR)		8 (2-12)	21 (19-24)
Ever had sex	7494 (66.2)	98 (63.2)	140 (91.5)
CT, NG or TV positive	1061/5464 (19.4)	22/80 (27.5)	31/76 (40.8)
CT positive	718/5538 (13.0)	11/81 (13.6)	17/78 (21.8)
NG positive	128/5451 (2.4)	1/79 (1.3)	10/74 (13.5)
TV positive	372/5538 (6.7)	14/81 (17.3)	18/78 (23.1)

STI screening and treatment must be integrated into HIV care for young people

Table 2: association of STI prevalence with HIV diagnosis

	No HIV diagnosis, % (95% CI)	Has HIV diagnosis, % (95% CI)	aRR (95% CI)	P
Any STI	19.2 (17.9, 20.6)	33.7 (29.4, 38.4)	1.75 (1.34, 2.29)	<0.001
CT	12.8 (12.0, 13.7)	19.0 (15.5, 23.0)	1.32 (0.96, 1.82)	0.091
NG	2.3 (1.8, 3.0)	6.1 (2.8, 12.7)	2.30 (1.37, 3.85)	0.002
TV	6.7 (5.4, 8.1)	17.7 (13.2, 23.3)	2.31 (1.67, 3.19)	<0.001

Conclusions

- Young adults living with HIV have increased prevalence of STIs and should receive STI screening as part of HIV care.
- Those who acquired HIV in adulthood are at increased risk of NG compared to their peers who acquired HIV perinatally.