

Adverse Pregnancy outcomes in the context of HIV infection: Data from a South African clinical study

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Lower risk of preterm birth in women living with HIV compared to women without HIV



BACKGROUND

South Africa has high prevalences of adverse pregnancy outcomes and women living with HIV (WLHIV).

Objective: to investigate perinatal health indicators among WLHIV and without HIV infection in an ongoing East London trial studying the impact of sexually transmitted infection (STI) screening in pregnancy

METHODS

- Ongoing study in pregnancy in 5 primary healthcare clinics in East London, South Africa
- Gestational age determined by ultrasound, ≤26 gestational weeks at enrolment
- HIV rapid, Syphilis rapid and GeneXpert® CT/NG and TV test; treatment offered
- Gestational weeks cut-offs used: preterm birth ≤37, stillbirth ≥28, miscarriage <28
- Analysis: Multivariable regression model with marginal risk difference and 95% confidence intervals (CI), only complete cases analysed
- From March 2021 to May 2024, 2871 women enrolled and 2515 followed-up until August 2024

RESULTS

Table 1: Baseline characteristics

	Women living with HIV (n = 735)	Women living without HIV (n = 1780)
Age, median (IQR)	30 (26-35)	27 (23-32)
Gestational age in weeks, median (IQR)	14 4/7 (9 1/7 - 18 6/7)	14 1/7 (9 0/7 - 18 6/7)
Primigravida, n (%)	133 (18.1)	593 (33.3)
Previous preterm birth (1 or more), n (%)	57 (7.8)	125 (7.0)
Previous poor obstetric outcome (miscarriage, stillbirth or ectopic), n (%)	176 (23.9)	375 (21.1)
Alcohol use since pregnancy, n (%)	232 (31.6)	469 (26.3)
Educational level ^a		
Less than Grade 10, n (%)	73 (9.9)	94 (5.3)
Grade 10 or 11, n (%)	305 (41.5)	551 (31.0)
Grade 12, Diploma or Degree, n (%)	357 (48.6)	1133 (63.7)
Treated for an STI (targeted or syndromically), n (%)	206 (28.0)	398 (22.4)
Positive rapid syphilis test, n (%)	37 (5.0)	50 (2.8)

Abbreviations: IQR = interquartile range
^a 2 datapoints missing in the group of HIV negative women

Table 2: Pregnancy outcomes^a

	Women living with HIV (n = 735), n (%)	Women living without HIV (n = 1780), n (%)	Marginal risk difference with 95% CI (WLHIV vs. HIV neg) in %	Adjusted marginal risk difference with 95% CI (WLHIV vs. HIV neg) in %
Term birth	555 (75.5)	1349 (75.8)	not done	not done
Preterm birth	108 (14.7)	285 (16.0)	-1.32 (CI -4.39, +1.76)	-3.21 (CI -6.30, -0.12)^b
Stillbirth	13 (1.8)	36 (2.0)	-0.25 (CI -1.41, +0.90)	-0.39 (CI -1.54, +0.76) ^c
Miscarriage	53 (7.2)	97 (5.4)	+1.76 (CI -3.85, +3.91)	+1.39 (CI -0.72, +3.50) ^b
Termination	3 (0.4)	7 (0.4)	not done ^d	not done ^d
Ectopic	3 (0.4)	6 (0.3)	not done ^d	not done ^d

Abbreviations: WLHIV = women living with HIV, neg = negative, CI = confidence interval
^a 44 sets of twins in total, all outcomes identical for both twins (counted as a single outcome)
^b adjusted for: age in years (continuous), gestational week at baseline (continuous), previous preterm birth, previous poor obstetric outcome, condom use at last intercourse, alcohol use during pregnancy, BMI, educational level, treated for an STI at baseline, rapid syphilis test result at baseline
^c due to low number of events only adjusted for: age in years (continuous), gestational week at baseline (continuous), previous poor obstetric outcome, alcohol use during pregnancy
^d due to low number of events

DISCUSSION

- Risk of preterm birth was lower in women living with HIV compared to women without HIV
- We did not find evidence for a difference in the risk of stillbirth
- Risk of miscarriage might be higher among women living with HIV

CONCLUSION

- Interventions to reduce adverse pregnancy outcomes should be prioritised independently of the woman's HIV status

