

Pregnancy Related Outcomes Between INSTI and Non-INSTI ART Regimens in an Urban Hospital Ryan White Clinic

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Introduction

Antiretroviral therapy (ART) during pregnancy has reduced perinatal HIV transmission to 1% in high income countries.¹ Treatment advances, including integrase strand inhibitors (INSTIs) have improved adherence and viral suppression rates among people living with HIV, but pregnancy and neonatal outcome data is limited.² Prior studies reported increased risk for adverse pregnancy outcomes on ART³, but were conducted prior to the widespread use of INSTIs.

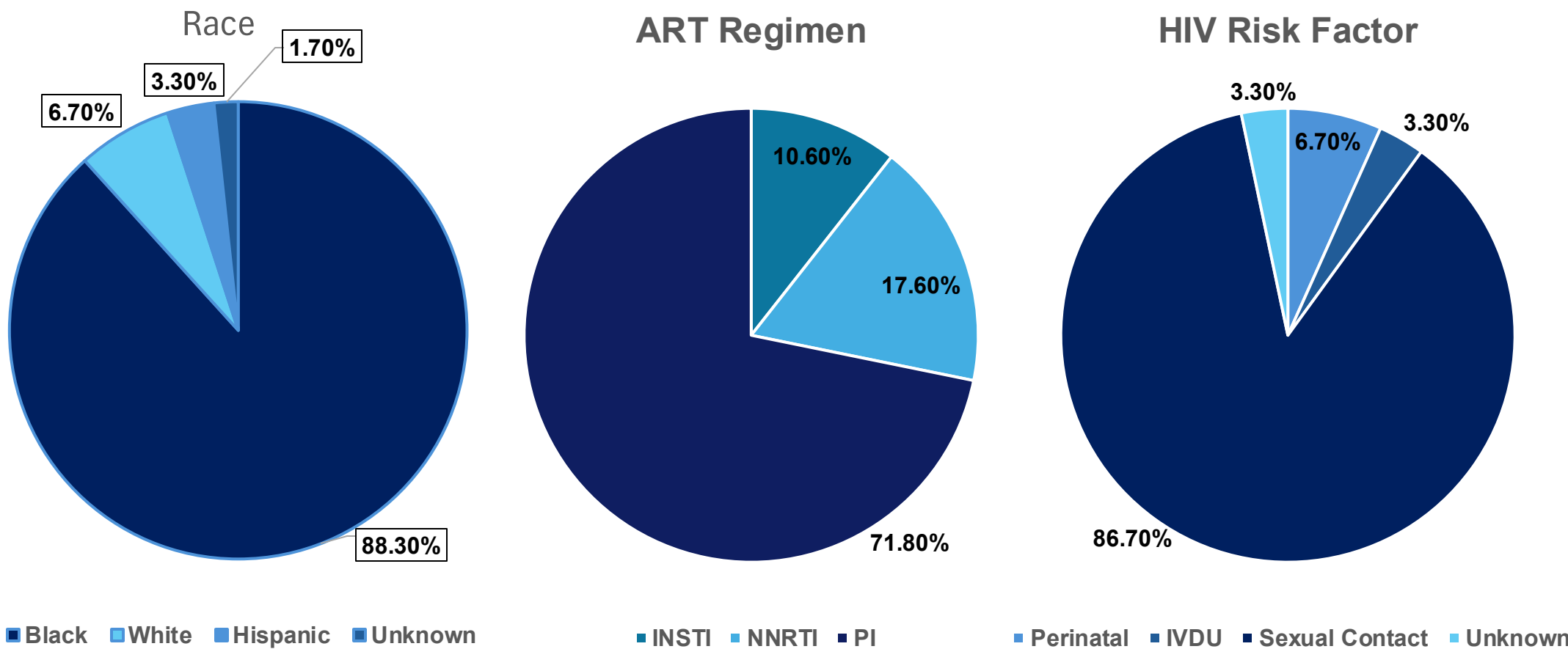
Study Objective: Compare pregnancy outcomes between INSTI-based and non-INSTI ART regimens among patients at a hospital-based Ryan White Clinic.

Methods

- Retrospective Cohort Analysis was performed
- Pregnancy data was collected from January 2013 and September 2024.
- Demographic and clinical data was collected via electronic medical record (EMR)
- Inclusion criteria: pregnancy that resulted in a live birth
- Chi-squared analysis was performed to compare maternal and infant outcomes

Results

- 60 cis-women, 85 pregnancies, 86 infant births
- Average Age: 30.5 years (± 5.3 years)



Results

ART Regimens

- 61 pregnancies on INSTI based regimen
- 24 pregnancies on non-INSTI based regimen

HIV Diagnosed During Pregnancy:

- 33.3% of the cis-women (20 of 60) were diagnosed with HIV during pregnancy
- Viral suppression was achieved in 90% of cases (n = 18/20)

ART REGIMEN PREGNANCIES INFANTS	Overall N=85 N=86	INSTI N=61 N=62	NON-INSTI N=24 N=24	P- value
Age Mean (SD)	30.5 (5.3)	30.3 (5.3)	30.5 (5.4)	0.75
Viral Load At Delivery				0.63
<50	73 (85.9)	51 (83.6)	22 (91.7)	
50-200	6 (7.1)	5 (8.2)	1 (4.2)	
>200	6 (7.1)	5 (8.2)	1 (4.2)	
Complications				0.9
Yes	38 (4.7)	27 (44.3)	11 (45.8)	
No	47 (55.3)	34 (55.7)	13 (54.2)	
Infant Birth Weight (kg) (SD)	3.056 (0.536)	3.008* (0.537)	3.177** (0.526)	0.2
HIV diagnoses during pregnancy	20 (23.5)	16 (26.2)	4 (16.7)	
Achieved viral suppression prior to delivery (VL< 200)	18 (90.0)	14 (87.5)	4 (100)	
Average days to viral suppression (SD)	64.4 (51.9)	40*** (28.0)	127.8 (51.1)	0.03

*Missing data for 4 infants
**Missing data for 1 infant
***Missing data for 3 pregnancies

Conclusions

No observed variation between INSTI and non-INSTI groups in:

- Mean infant birth weight
- Perinatal complication risk
- Viral suppression at the time of delivery

INSTI based ART had more rapid viral suppression when initiated during pregnancy.

High number of HIV diagnoses found during routine prenatal care.

Study Implications:

- INSTI-based regimens offer the advantage of achieving faster viral suppression, without negatively affecting perinatal outcomes
 - Important for late to or inadequate prenatal care
- Routine HIV testing during pregnancy remains a vital component HIV screening

Further Considerations & Limitations

Limitations include incomplete data resulting from gaps in EMR and missing perinatal/birthing information for individuals who delivered outside the hospital system.

Future directions include examining extended perinatal outcomes such as mode of delivery, partner notification status, infant feeding practices, and postpartum contraceptive choices.

References

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- Theron, G., Brummel, S., Fairlie, L., *et al.* Pregnancy outcomes of women conceiving on antiretroviral therapy (ART) compared to those commenced on ART during pregnancy. *Clinical Infectious Diseases* 2021; 73(2):e32-20.
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