Mini-Oral Abstract Presentations 3

#20 Incident HIV Infection Among Pregnant Women in The South African 2017 Antenatal Survey: Assay-Based Incidence Measurement

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Incident HIV infection among pregnant women in the 2017 antenatal sentinel cross–sectional survey, South Africa: assay–based incidence measurement

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Background

➢ Incident HIV infection during pregnancy is a significant contributor of mother–to–child transmission of HIV (MTCT).

➢ In South Africa incident (maternal) HIV infection accounted for an estimated 26% of infant HIV infections in 2011.

➢ This study measured HIV incidence among pregnant women nationally and described the characteristics of recently infected pregnant women using data from the 2017 antenatal sentinel HIV survey in South Africa

Methods

- ➢ Cross-sectional survey, first and follow-up antenatal visit attendees (15-49 years).

- ➢ Planned sample size: n=36 015, 1 595 sentinel sites.
- ➢ The survey was conducted between 1 October and 15 November 2017

- ➢ After collecting written consent, participants were interviewed and demographic and clinical data were extracted from the medical record.

- ➢ Blood specimens were collected from pregnant women and tested for HIV using two serial immuno-assays (EIA) in a centralised laboratory
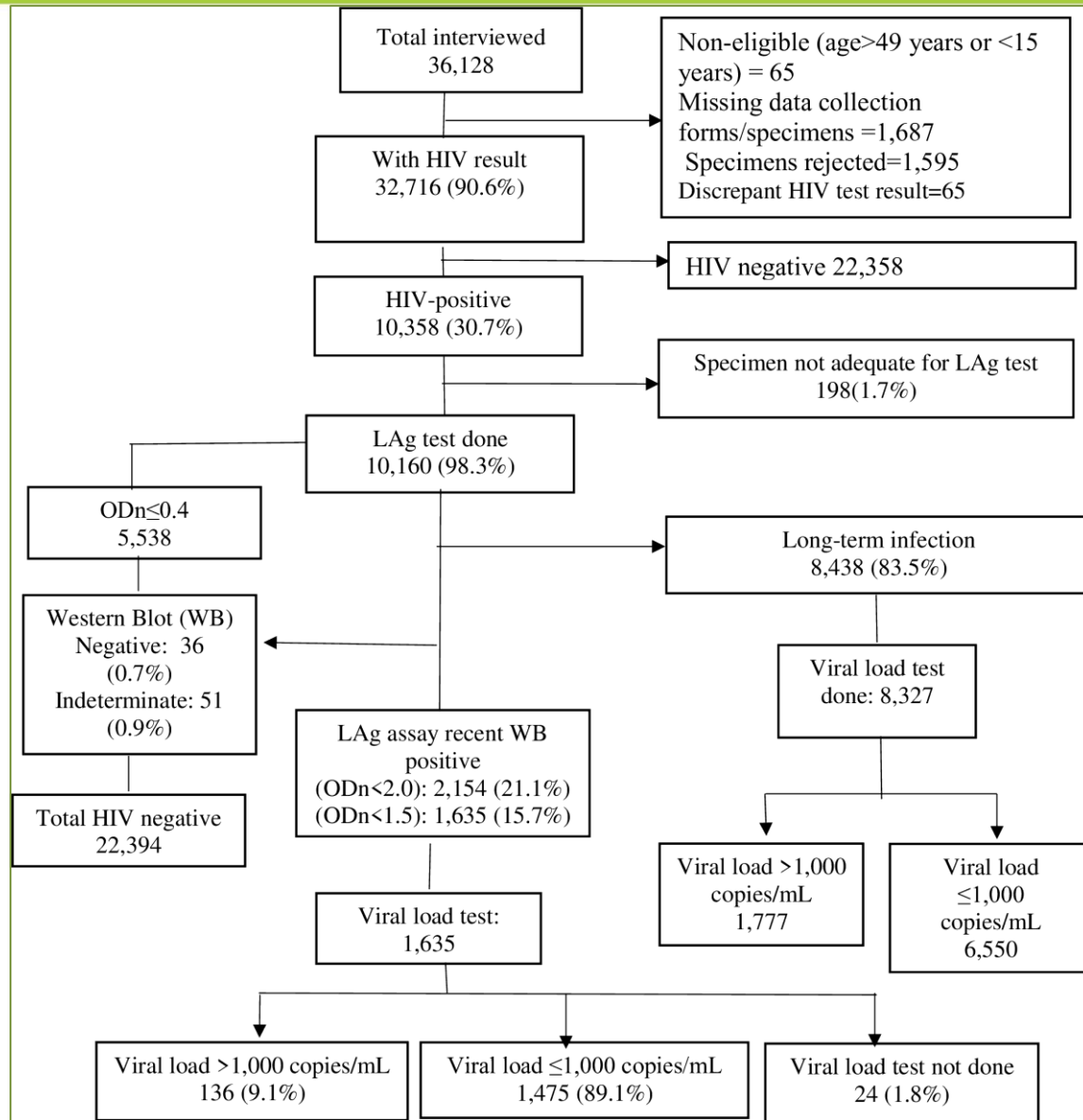
Methods

➢ Recency of infection was determined using Limited Avidity Antigen (LAg) assay and viral load. Those who were identified as recently infected based on LAg and had viral load>1000 copies/ml were classified as recent infection.

➢ Annual incidence was estimated in the R statistical package

➢ Descriptive statistics

➢ A multivariable logistic regression model was fitted to examine factors associated with recent infection (using HIV negative women as reference group)

Results

Overall annual HIV incidence
1.5% (95%CI: 1.2– 1.7)

Total interviewed
36,128

Non-eligible (age>49 years or <15 years) = 65
Missing data collection forms/specimens =1,687
Specimens rejected=1,595
Discrepant HIV test result=65

With HIV result
32,716 (90.6%)

HIV negative 22,358

HIV-positive
10,358 (30.7%)

Specimen not adequate for LAg test
198(1.7%)

LAg test done
10,160 (98.3%)

ODn≤0.4
5,538

Long-term infection
8,438 (83.5%)

Western Blot (WB)
Negative: 36 (0.7%)
Indeterminate: 51 (0.9%)

Viral load test
done: 8,327

LAg assay recent WB positive
(ODn<2.0): 2,154 (21.1%)
(ODn<1.5): 1,635 (15.7%)

Total HIV negative
22,394

Viral load >1,000 copies/mL
1,777

Viral load ≤1,000 copies/mL
6,550

Viral load test:
1,635

Viral load >1,000 copies/mL
136 (9.1%)

Viral load ≤1,000 copies/mL
1,475 (89.1%)

Viral load test not done
24 (1.8%)

*all percentages are weighted, except for "percentages with HIV result" and "percentages specimens not processed for LAg". LAg: Limiting Antigen Avidity Enzyme; ODn:optical density

Result: Factors associated with recent infection

	N (%)	Adjusted OR (95% CI)
Marital status		
Single	23,255 (71.7)	3.4 (1.8 – 6.2)
Cohabiting	3,060 (9.8)	3.8 (1.8 – 7.7)
Married	5,633 (18.5)	1.0
Visit type		
First ANC visit attendees	12,322 (40.3)	1.6 (1.2 – 2.2)
Follow–up ANC visit attendees	19,898 (59.7)	1.0
Age gap with partner among 15–24 years		
≥5 years	4,363 (35.6)	3.1 (2.0– 4.7)
<5 years	8,090 (64.4)	1.0
Age gap with partner among 25–49 years		
≥5 years	4,983 (31)	1.6 (0.9– 2.6)
< 5 years	11,320 (69)	1.0
Age of woman (among women with partner ≥5 years older)		
15– 24 years	4,363 (45.9)	1.4 (0.8– 2.3)
25– 49 years	4,983 (54.2)	1.0
Age of woman (among women with partner <5 years older)		
15– 24 years	8,090 (40.8)	0.7 (0.5– 1.1)
25– 49 years	11,320 (59.2)	1.0

Conclusion

➢ Among this population of pregnant women, this was the first attempt to estimate incidence at a national level.

➢ Compared to previous studies among pregnant women, the incidence estimated in this study was substantially lower. However, a steeper decline in HIV incidence is needed to achieve the UNAIDS target to reduce incidence by 75% (to <1%) in 2020.

➢ The implementation of HIV prevention and treatment interventions should be intensified, targeting young women engaged in age disparate relationship and unmarried women

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