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Maternal Characteristics of Women with HIV Positive Infants: a Case Series in Routine Settings in South Africa

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Background

• Eliminating mother-to-child transmission of HIV is a global health priority.
• Nationally, South Africa has reduced early vertical transmission to < 3%.
• Despite overall progress, there is considerable variation in the uptake of the PMTCT cascade services across SA.
• Relative paucity of data describing the characteristics of pregnant women whose infants acquire HIV in routine settings.
• **Aim:** To describe maternal characteristics of HIV-infected infants in a routine maternal & child health program in two districts.
Methods

- Case series of mother-infant pairs where infants tested HIV-positive (≤ 18 months) at 41 public primary healthcare clinics in Amajuba and Cape Town between February 2013-December 2014.

- Facilities were supported by Kheth’Impilo, a nonprofit organization supporting DoH with public health innovations.

- Nurses abstracted clinical data from mother’s folders on a routine basis.

Antenatal HIV prevalences (2013):
Amajuba: 39%
Cape Town Metro: 22%

Infant 6 week PCR positivity (2013/14):
Amajuba: 1.3%
Cape Town: 1.5%
Results

• 25 mother-infant pairs included; 14 from Amajuba and 11 from Cape Town.
• Median age of mothers at delivery 23 years; 68% of women were young women (≤ 24 years).
• Median women’s CD4 cell count: 345 cells/μL (IQR: 242-450).
• All women booked at PHC, but 14 (56%) delivered at hospitals.
Gestational age at first antenatal clinic visit

- 14 weeks and before, 7, 28%
- 15-24 weeks, 6, 24%
- Unbooked, 6, 24%
- After 24 weeks, 6, 24%
Receipt of antenatal ART

- No antenatal ART; 12, 48%
- Received suboptimal duration antenatal ART (<13 weeks), 7, 28%
- Received optimal duration of antenatal ART, 6, 24%
Reasons for not commencing antenatal ART (n=12)

- Unbooked: 6, 50%
- Undiagnosed late gestational HIV seroconversion: 4, 33%
- Diagnosed late gestational HIV seroconversion, failed to initiate ART antenatally: 2, 17%
Reasons for suboptimal duration of antenatal ART (n=7)

- Booked in late gestation (>24 weeks), 4, 57%
- Late gestational seroconversion 3, 43%
Possible reasons for transmission amongst women with optimal durations of ART (n=6)

- Infant did not receive NVP, 1, 16%
- Maternal viral load not suppressed, 1, 17%
- Mother discontinued ART after delivery, 1, 17%
- Not apparent, 3, 50%
Likely reasons for transmission: All mother-infant pairs

- **Nil/suboptimal antenatal ART**
  - Unbooked, undiagnosed HIV: 24%
  - Booked in late gestation: 16%
  - Undiagnosed late gestational seroconversion: 16%
  - Diagnosed late gestational seroconversion but no/suboptimal ART: 20%

- **Optimal antenatal duration ART**
  - Maternal viral load not suppressed: 4%
  - Infant did not receive NVP: 4%
  - Mother stopped ART after delivery: 4%
  - Reason unapparent: 12%

**Likely reasons for transmission:**
- Nil/suboptimal antenatal ART
- Optimal antenatal duration ART

**Note:**
- HIV
gestational
- Seroconversion
- ART
- NVP
- Delivery
- Unapparent

**Reasons:**
- All mother-infant pairs
- Nil/suboptimal ART
- Optimal ART

**Reasons for transmission:**
- Unbooked, undiagnosed HIV
- Booked in late gestation
- Undiagnosed late gestational seroconversion
- Diagnosed late gestational seroconversion but no/suboptimal ART
- Maternal viral load not suppressed
- Infant did not receive NVP
- Mother stopped ART after delivery
- Reason unapparent

**Probabilistic distribution:**
- 24% unbooked, undiagnosed HIV
- 16% booked in late gestation
- 16% undiagnosed late gestational seroconversion
- 20% diagnosed late gestational seroconversion but no/suboptimal ART
- 4% maternal viral load not suppressed
- 4% infant did not receive NVP
- 4% mother stopped ART after delivery
- 12% reason unapparent
Amongst children diagnosed after 6 weeks, 55% had a negative test at 6 weeks-late postnatal transmission; remainder were not tested at 6 weeks.
Conclusions

• >2/3 rd of women whose infants acquired HIV were young women
• An array of probable reasons for vertical transmission were apparent.
• Half of women received no antiretrovirals, with a high proportion of whom were unbooked antenatally.
• Late gestational HIV acquisition in women was associated with over a third of all vertical transmissions.
• Late postnatal transmission remains concerning, accounting for 20% or more of transmissions in this case series.
• More frequent antenatal HIV testing (4-6 weekly) should be considered for HIV-negative women, particularly younger women.
• Ongoing quality assurance and improvement is critical for PMTCT services.
Thank you

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