HIV vertical transmission in England: the current picture

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Background

- The UK has met 90-90-90 targets since 2017 and a major success is the low vertical HIV transmission rate (VTR).
- This reflects high uptake of HIV antenatal testing (currently 99.8%) and the impact of the NHS Infectious Diseases in Pregnancy Screening programme (IDPS) and HIV treatment and care services.
- A small number of vertical transmissions (VT) still occur in England, and it remains important to understand the factors driving these.
- Building on previous work (ISOSS 2021 Annual Report), we present an update to the VTR (infants born 2018-2019), and describe 13 VTs reported to ISOSS between 01/06/2020-31/12/2021.

Methods

- The Integrated Screening Outcomes Surveillance Service (ISOSS) is part of the NHS IDPS programme commissioned by NHS England.
- ISOSS reports cover all pregnancies to women living with HIV in England, their infants and any children diagnosed with HIV.
- ISOSS carries out additional data collection of VTs occurring in children born since 2016, including those where the mother was not diagnosed until after delivery. ISOSS interviews paediatric, maternity and HIV clinicians involved in each case.
- The IDPS Clinical Expert Review Panel (CERP) reviews circumstances around transmissions, including complicating issues, and establishes any contributing factors.

Results

Overall reports of vertical transmissions (births 2006-21)

In total there were 156 children with vertically-acquired HIV reported: 108 were reported by 2014, 35 reported between 2014 and 2020, and 13 reported between 2020-2021 (Figure 1).

Vertical transmissions reported, England 2020-21 (n=13)

- Children’s age at diagnosis ranged from birth to 7 years.
- Region of child’s birth was: London (6), Midlands (2), East of England (2), North East/Yorkshire & Humber (2) and South West (1).
- 6 children were born to women diagnosed pre-pregnancy, 1 to a woman diagnosed antenatally, and 6 to women diagnosed postnatally.
- Most (12/13) children were born to women born outside the UK, with 9 from sub-Saharan Africa and 3 from Eastern Europe. Median maternal age at delivery was 34 years (Q1: 31, Q3: 39).

CONTRIBUTING FACTORS (VTs reported 2020-21)

The CERP identified and agreed on the main factors contributing to the 13 transmissions reported 2020-21 (shown below). In some cases there were overlapping and/or multiple factors identified.

- 6 women screened negative in pregnancy (with confirmed negative test), seroconverting at some point during pregnancy or breastfeeding.
- Among these: 1 woman rescreened later in pregnancy following partner’s diagnosis; 5 women tested positive after delivery, 3 following child’s diagnosis and 2 following their partner’s diagnosis.
- 3 women had issues with adherence to ART and engagement with healthcare services in pregnancy.
- All 3 women were diagnosed before pregnancy: 1 declined treatment, 1 had issues tolerating ART and 1 had issues remembering to take ART. All had diagnosed mental health issues and involvement from social services. Viral loads at delivery ranged from 13,000 to 395,000 copies/ml.
- One woman had received no antenatal care and was screened in labour with the result available after delivery and post-initiation of breastfeeding.
- One transmission was postnatal likely due to non-disclosed breastfeeding. This woman had been supported to breastfeed in a previous pregnancy but was advised against breastfeeding in this pregnancy due to detectable viral load and issues with engagement with healthcare services.

In two transmissions no contributing factors were identified

Vertical transmission rate, 2018-19

- There were 3 VTs among 1205 infants with known infection status born in 2018-2019 to women diagnosed by delivery.
- Maternal disengagement with healthcare services and late antenatal booking (≥20 weeks gestation) were identified as contributing factors.

Conclusions

The sustained low VTR reflects ongoing successes of the screening programme and clinical management. Issues identified by the CERP support previous findings; seroconversion remains a common factor, highlighting the importance of sexual health awareness in pregnancy. Increasing complexities seen in the small number of VTs still occurring in England, mean that ongoing monitoring by ISOSS and the insights provided by the CERP remain vital.