Successes and emerging challenges in prevention of vertical HIV transmission in the UK & Ireland

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BACKGROUND

• In the UK and Ireland the **vertical HIV transmission rate** (VTR) declined from 2.1% in 2000-01 to **0.27%** in 2012-14 among diagnosed women living with HIV

• Due to:
  - high uptake of antenatal screening (>99%)
  - improvements in management of HIV in pregnancy
  - increased proportion of women on ART from conception
The British HIV Association (BHIVA) currently recommends formula-feeding infants born to women living with HIV, eliminating postnatal transmission risk.

However, BHIVA also states that virologically suppressed treated women with good adherence to antiretroviral therapy (ART) who choose/plan to breastfeed may be clinically supported to do so.

Guidelines on diagnostics for breastfed infants and maternal viral load monitoring have been updated, and include monthly testing for mother and infant.

www.bhiva.org/pregnancy-guidelines
METHODS

The **National Surveillance of HIV in Pregnancy & Childhood** (NSHPC) conducts comprehensive surveillance of obstetric and paediatric HIV in UK and Ireland, running since 1989

- **All pregnancies** in diagnosed women living with HIV and their infants, as well as all **children diagnosed with HIV** are reported

- Over 20,000 pregnancies reported to date, approx. 1200 per year

- The NSHPC also conducts **enhanced data collection on reports of perinatal transmissions** and **planned/supported breastfeeding** among diagnosed women

We report maternal characteristics and vertical transmissions among singleton liveborn infants in 2015-16 with infection status reported by March 2018 and reports of planned and/or supported breastfeeding since 2012
In 2015-16 there were 1914 singleton livebirths to HIV diagnosed women
- 70% (1347/1909) of women were Black African
- 83% (1555/1881) of mothers were born outside the UK/Ireland
- 88% (1691/1914) of women were diagnosed prior to pregnancy
- Median age at delivery was 34yr (IQR: 30,37)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
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</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td>n=1909</td>
</tr>
<tr>
<td>Black African</td>
<td>1347 (70%)</td>
</tr>
<tr>
<td>White</td>
<td>396 (21%)</td>
</tr>
<tr>
<td>Other</td>
<td>166 (9%)</td>
</tr>
<tr>
<td>Place of birth</td>
<td>n=1881</td>
</tr>
<tr>
<td>UK/Ireland</td>
<td>326 (17%)</td>
</tr>
<tr>
<td>Africa</td>
<td>1315 (70%)</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>240 (13%)</td>
</tr>
<tr>
<td>Timing of diagnosis</td>
<td>n=1914</td>
</tr>
<tr>
<td>Before pregnancy</td>
<td>1691 (88%)</td>
</tr>
<tr>
<td>During pregnancy</td>
<td>223 (12%)</td>
</tr>
<tr>
<td>ART initiation</td>
<td>n=1861</td>
</tr>
<tr>
<td>At conception</td>
<td>1307 (70%)</td>
</tr>
<tr>
<td>During pregnancy</td>
<td>554 (30%)</td>
</tr>
<tr>
<td>Viral load (copies/ml) at delivery*</td>
<td>n=1231</td>
</tr>
<tr>
<td>&lt;50</td>
<td>1141 (93%)</td>
</tr>
<tr>
<td>51-999</td>
<td>72 (6%)</td>
</tr>
<tr>
<td>≥1000</td>
<td>18 (1%)</td>
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*within 30 days of delivery
HIV IN PREGNANCY - CURRENT PICTURE IN UK/IRELAND

In 2015-16...

- >99% deliveries to women on ART
- 70% of women on ART at conception
- Proportion of women with undetectable viral load at delivery 93% in 2015-16
VERTICAL TRANSMISSION RATES IN DIAGNOSED WOMEN

Infection status was confirmed for 75% (1438/1914) of infants born 2015-16

The vertical transmission rate among women diagnosed pre-pregnancy with undetectable VL throughout pregnancy was 0.17% ([0.01%, 0.92%] 1/586)
VERTICAL TRANSMISSIONS: born to diagnosed women 2015-16

Four transmissions among 1438 infants with known infection status:

- **Two infants** whose mothers were diagnosed after 20 weeks gestation following late antenatal presentation, where transmission occurred *in utero* (positive PCR aged ≤3 days)
- **One infant** born to a woman diagnosed pre-conception with detectable delivery VL (*in utero* transmission)
- **One infant** with postnatal transmission probably via breastfeeding (PCR negative at 6 weeks, positive aged 18 months)

**Note:** The NSHPC’s ongoing Vertical Transmissions Audit investigates antenatal screening and management of women whose infants acquire HIV vertically in UK.
BREASTFEEDING

• Of note, for the likely case of postnatal transmission described, breastfeeding was not communicated to clinicians.

• There have been over 130 reports of planned and/or supported breastfeeding among women on fully suppressive therapy since 2012 (duration varies from 1 day to 2 years/ongoing).

• The NSHPC launched enhanced data collection of breastfeeding cases last year. This includes seeking all maternal and infant test results during breastfeeding. This is the first time this data has been collected in the UK, and will provide valuable insights to inform future guidelines.

• Of these 130 cases, interviews have been carried out for 95. Infection status has not yet been confirmed in many cases and monitoring is ongoing.
SUMMARY

• The **vertical transmission rate** among diagnosed women living with HIV in the UK/Ireland remains very low at 0.28% - the proportion of women achieving **undetectable delivery VL** has increased to 93%, reflecting sustained efforts to provide optimal treatment and care to women and infants

• **The increased reports of breastfeeding in the UK** in this period are likely to be linked to guideline updates, the current ‘U=U’ era and continued strides towards normalisation of maternity experiences for women living with HIV

• However **breastfeeding cases require careful monitoring**, enabled by the NSHPC parallel paediatric surveillance scheme, to **ensure identification of any late postnatal transmissions** and appropriate adjustment of the vertical transmission rate if required
ACKNOWLEDGEMENTS

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- **Current Team:** Helen Peters, Kate Francis, Laurette Bukasa, Anna Horn, Rebecca Sconza
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