Pregnancy characteristics and outcomes of women with vertically-acquired HIV in the UK

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Background

- In the UK there are approximately 900 pregnancies to women living with HIV every year and the vertical transmission rate is under 0.3%
- Worldwide, increased availability of antiretroviral therapy (ART) and earlier treatment has resulted in a growing number of reproductive-aged women with vertically-acquired HIV (WVHIV)
- However, knowledge gaps on their characteristics and pregnancy outcomes exist
- Building on previous work (Byrne et al 2017), we present population-level pregnancy outcome data for this important emerging cohort in the UK

Objectives

- To describe maternal and pregnancy characteristics of WVHIV and trends over time, and assess birth and infant outcomes of WVHIV
- To compare specific characteristics and outcomes in WVHIV with those in women living with likely heterosexual-acquired HIV (WHHIV)

Methods

- The Integrated Screening Outcomes Surveillance Service (ISOSS) is part of the NHS Infectious Diseases in Pregnancy Screening Programme commissioned by NHS England
- All pregnancies to women living with HIV in the UK, their infants and any children diagnosed with HIV (<16yrs age) are reported to ISOSS.
- Long term follow-up of all children living with HIV is carried out by the Children’s HIV and AIDS Reporting System (CHARS)
- Data have been collected for >30 years, and concurrent paediatric and maternity reporting streams offer a unique opportunity to link historical paediatric reports of women diagnosed as children and seen for paediatric care in the UK to pregnancy reports.

Results

- 17,478 pregnancies were reported overall, including 202 (1.6%) pregnancies to 131 WVHIV
- Over the period there was a 10-fold increase in the proportion of pregnancies in WVHIV from 0.3% (15/5011) in 2006-09 to 3.5% (83/2403) in 2018-21, while there was a decrease in the proportion of pregnancies to WHHIV (p<0.001)

Maternal characteristics: diagnosis and socio-demographics

- Median age at diagnosis among WVHIV was 6 years (IQR:2-11) with 22 women were diagnosed in their first year of life
  - 62% (81/131) were diagnosed in the UK, and 85% (112/131) were reported to ISOSS in childhood
  - 18% (23/131) had history of an AIDS-defining illness and of these 52% (12/23) had an AIDS-defining illness at HIV diagnosis
  - 54% of pregnancies to WVHIV were in African-born women vs 74% for WHHIV, 37% were UK-born compared to 15% for WHHIV, p<0.001
- Median age at delivery was 24 years (IQR: 20-27) for WVHIV compared to 33 years (IQR: 29-37) for WHHIV

Pregnancy characteristics

- 81 WVHIV had one pregnancy, 34 had two, 16 had ≥three
- Differences in key pregnancy characteristics for WVHIV vs WHHIV are shown in Figure 1

Pregnancy outcomes

- Pregnancy outcomes for WVHIV were: 170 livebirths (84%), 10 miscarriages (5%), 18 terminations (9%) and 4 stillbirths (2%)
- Congenital condition rate: 5.7% (95% CI: 2.7%, 10.6%) among deliveries to WVHIV vs 4.3% (4.0%, 4.7%) to WHHIV
- Of infants born to WVHIV with complete follow-up, one was diagnosed HIV-positive (1/150, 0.66%)

Conclusions

- WVHIV are a growing sub-population in the UK and HIV-related markers have improved over time
- There has been one case of second-generation vertical transmission
- Further work is needed to understand why fewer WVHIV have undetectable VL at delivery, in order to optimise outcomes
- Other areas of interest in this group includes sequential pregnancies and longer-term outcomes of children born HIV-free.