Coinfections in pregnancy to women living with HIV in the UK

Helen Peters[1], Kate Francis[1], Sharon Webb[2], Claire Thorne[1]

[1]Integrated Screening Outcomes Surveillance Service, UCL Great Ormond Street Institute of Child Health

[2]Infectious Diseases in Pregnancy Screening Programme, Public Health England

BACKGROUND

- Sexually-acquired and blood-borne coinfections are frequent among people living with HIV.
- In pregnancy, coinfections may place women and their infants at increased risk for adverse outcomes, including vertical/congenital infection, with potential implications for management during pregnancy and beyond
- We describe the current epidemiological picture regarding coinfection in pregnancy among women living with HIV (WLWH) using observational UK population-level surveillance data.

METHODS

- The Integrated Screening Outcomes Surveillance Service (ISOSS) is part of Public Health England's Infectious Diseases in Pregnancy Screening Programme and conducts active surveillance of all pregnancies reported in women with HIV, syphilis (since 2020) and hepatitis B (from 2021) and their children in the UK.
- Surveillance of pregnancies in WLWH includes data collection on Hepatitis B virus (HBV), syphilis and Hepatitis C virus (HCV) coinfection
- Descriptive statistics summarise pregnancies to WLWH in 2009-2018 with information on coinfection (9536/11494), reported to ISOSS by December 2019.

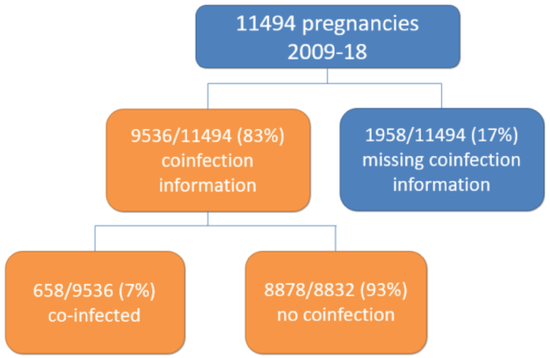

Figure: Overview of pregnancy population in ISOSS 2009-18

RESULTS

- Overall 7% of pregnancies had at least one coinfection reported (Figure): **4.4% (420/9536), 1.4% (136) and 1.3% (123) had HBV, HCV and syphilis coinfection respectively.**
- 21 pregnancies had ≥1 coinfection: 4 HBV/HCV, 10 HBV/syphilis, 7 HCV/syphilis.

Most pregnancies with coinfection were to women born abroad

Three-quarters from Sub-Saharan Africa and one in seven from Eastern Europe

Higher rate of pre-term delivery among pregnancies with coinfection

Congenital infection was reported in 0.8% infants: syphilis (3), HBV (1), HCV (1)

Table: Maternal characteristics & pregnancy outcomes by coinfection exposure

	Non-coinfected (n=8878)	Coinfected (n=658)	p-value
Maternal timing of diagnosis			
Before pregnancy	7448 (83.90%)	531 (80.7%)	
During pregnancy	1429 (16.1%)	127 (19.3%)	0.032
Maternal median age (IQR)	33 (29,37)	33 (29,37)	0.96
Maternal region of birth			
UK	1393 (15.9%)	47 (7.2%)	
Abroad	7364 (84.1%)	606 (92.8%)	<0.001
Maternal mode of HIV acquisition			
Heterosexual	8022 (96.5%)	545 (89.3%)	
Injecting drug use (IDU)	35 (0.4%)	50 (8.2%)	
Vertical	148 (1.8%)	4 (0.7%)	
Other	105 (1.3%)	11 (1.8%)	<0.001
Maternal ethnicity			
Black African	6543 (73.8%)	472 (71.8%)	
White	1482 (16.7%)	148 (22.5%)	
Other	845 (9.5%)	37 (5.6%)	<0.001
Gestation at delivery*			
<37wk	1062 (12.8%)	99 (15.8%)	
≥37wk	7218 (87.2%)	527 (84.2%)	0.032

* Livebirths and stillbirths only

HBV COINFECTION (4.4%, 95% CI: 4.0, 4.8%)

- **86%** of pregnancies to women of **Black African** ethnicity
- **86%** from **sub-Saharan Africa (SSA)** and **3% UK**
- **97%** born to mothers with heterosexually **acquired HIV**
- Median maternal age 34 (30, 37)

SYPHILIS COINFECTION (1.3%, 95% CI: 1.1, 1.5%)

- **82%** of pregnancies to **Black African** women
- **78%** to women from SSA and 8% from Eastern Europe, 6% UK
- **97%** to women with heterosexually **acquired HIV**
- Median maternal age 34 (30, 37)

HCV COINFECTION (1.4%, (95% CI: 1.2, 1.7%)

- **81%** of pregnancies to women of **White ethnicity**
- **50%** to women from **Eastern Europe and 16% from SSA, 20% UK**
- **35%** to women who **acquired HIV through IDU**
- Median maternal age 32 (28, 36)

CONCLUSIONS

- One in 14 pregnancies in WLWH in the UK occur in women coinfected with HBV, HCV and/or syphilis, underscoring the need for ongoing awareness of sexual health in pregnancy. Vigilance during pregnancy allows for effective interventions to prevent vertical transmission of HBV and syphilis, whilst access to treatment postpartum for women with HCV coinfection is important
- As surveillance within ISOSS continues, particularly for the other screened for infections in pregnancy (HBV and syphilis), greater insights will be provided into outcomes for mother and infant. Understanding the differences between the populations affected by these infections provides an opportunity to address vulnerabilities and barriers to care, and to further inform national guidelines and policy.

FUNDING AND GOVERNANCE

ISOSS is funded by Public Health Infectious Diseases in Pregnancy Screening Programme. Patient data is collected under legal permissions granted to PHE under Regulation 3 of the Health Service (Control of Patient Information) Regulations 2002

ACKNOWLEDGEMENTS

Thanks to respondents who report to ISOSS and to the rest of the current ISOSS team. Any views expressed are those of the authors and not necessarily those of the funders.

CONTACT

www.ucl.ac.uk/isoss

Helen.peters@ucl.ac.uk