ACTHIV 2018: A State-of-the-Science Conference for Frontline Health Professionals
Reproductive Decision-Making, Sexual Health, and HIV

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Disclosures: None
Objectives

• List three tools available to protect an HIV-negative partner from HIV acquisition when attempting conception

• Describe ways to prevent mother-to-child transmission of HIV
What we will talk about

• Planning to get pregnant or not get pregnant
• Strategies for safe conception among serodifferent couples
• Where pre-exposure prophylaxis (PrEP) fits in
• Methods for prevention of perinatal HIV transmission
Whose responsibility is it to raise the issue of pregnancy plans?

- With women living with HIV? With men living with HIV?
- Primary care HIV clinician? Ob/gyn? The client?
- “What are your pregnancy plans?”
- How often do you ask? Remember the answer you get today may be different than the answer one year from now
Preconception counseling is not being addressed

• Data suggests that reproductive counseling does not often occur until after conception
  – Study of 181 women with HIV: Only 31% reported a personalized discussion with their provider specific to their childbearing plans.
  – Of those who had a personalized discussion, most were initiated by the client rather than the provider.

*S. Finocchario-Kessler, et al., AIDS Patient Care and STDS, 24(5), 317-23, 2010*
Fertility desires and intentions... trends over time

• 1998: Interviews with 1421 men and women living with HIV in the U.S.
  – 28-29% desired pregnancy in the future

• Survey of 450 women living with HIV in the UK in 2011
  – 75% stated they wanted (more) children

Chen J et al. Family Planning Perspectives. 2001;33(4):144-152
Cliffe S et al. AIDS Care. 2011 Sep;23(9):1093-101
What do the updated Perinatal Guidelines say?

November 2017

Recommendations for the Use of Antiretroviral Drugs in Pregnant Women with HIV Infection and Interventions to Reduce Perinatal HIV Transmission in the United States

Developed by the HHS Panel on Treatment of Pregnant Women with HIV Infection and Prevention of Perinatal Transmission—A Working Group of the Office of AIDS Research Advisory Council (OARAC)
Preconception Counseling and Care for Women of Childbearing Age Living with HIV

• Discuss childbearing intentions with all women of childbearing age on an ongoing basis throughout the course of their care

• Provide information about effective and appropriate contraceptive methods to reduce the likelihood of unintended pregnancy

• HIV infection does not preclude the use of any contraceptive method; however, drug-drug interactions between hormonal contraceptives and ART should be considered
Preconception Counseling and Care for Women of Childbearing Age Living with HIV: *What’s New*

- Updated Table 3: **Drug Interactions Between Antiretroviral Agents and Hormonal Contraceptives** includes updated recommendations
  - **Atazanavir**: Prescribe oral contraceptive that contains no more than 30mcg of EE, or recommend alternative contraceptive method.
  - **Atazanavir/Ritonavir**: Some updated studies but no additional contraceptive needed.
  - **Atazanavir/Cobicistat** and **Darunavir/Cobicistat**: **Contraindicated** with drospirenone-containing hormonal contraceptive due to potential for hyperkalemia. Consider alternative or additional contraceptive method.
Preconception Care for Women and Men Living with HIV and for Serodifferent Couples
LOGISTICS for the Serodifferent Couple Who Desires Pregnancy

- Woman with HIV/ man without HIV
- Man with HIV/woman without HIV
Basic concepts

• Treatment (of the partner living with HIV) as prevention HPTN 052: 96% reduction in HIV transmission

• Condoms except for peak fertility times

• Pre-exposure prophylaxis (PrEP) for partner not living with HIV: daily oral tenofovir/emtricitabine (TDF/FTC)

Treatment as Prevention

HIV Prevention Trials Network (HPTN) O52 2011

Randomized controlled trial of 1763 HIV mostly heterosexual serodiscordant couples

Sub-Saharan Africa, Asia and the Americas

Early ART at CD4 count 350–550 vs. 200–250

96% decrease in HIV-1 sexual transmission

>90% reduction in transmission

Thanks to Charlene A. Flash MD MPH

U = U

Undetectable = Untransmittable

• CDC 2017
• How certain are you that your partner is taking antiretroviral therapy (ART) daily?
• How certain are you that your partner’s viral load is undetectable?
PrEP

• Pre-exposure prophylaxis

• If used around conception, also known as “PrEPception”

• Requires knowledge that the individual has or might have a partner living with HIV
Pre-exposure prophylaxis (PrEP) for the uninfected partner

• Once daily tenofovir/emtricitabine (Truvada)
• FDA approved since 2012
• Basic requirements:
  – Baseline 4th generation HIV screening test, HIV RNA viral load, STI screening (GC/chlamydia/syphilis), renal function, pregnancy test, hepatitis panel, and HBsAb
  – HIV 4th generation screening test and pregnancy test q 3 months
  – Renal function q 6 months
  – Immunize against Hep B if not immune
• Pregnancy and breastfeeding are not contraindications to PrEP
HIV prophylaxis in serodifferent couples: iPrex study 2010

2499 MSM from Thailand, South Africa, U.S., Peru, Brazil, and Ecuador

Oral tenofovir (TDF)

36 infected
44% reduction in transmission--overall

Drug levels measured
77% reduction if >90% adherence
>85% reduction if detectable drug

No tenofovir

64 infected

Grant R et al. NEJM 2010; 263(37):2587-99.
HIV prophylaxis in serodifferent couples: Partners Trial

• Pre-Exposure Prophylaxis (PrEP)
  – 4578 serodifferent (*heterosexual*) couples
  – 3 arms: HIV-negative partner treated with once daily tenofovir, tenofovir/emtricitabine, or placebo
  – 67% reduction in HIV transmission with tenofovir
  – **75% reduction** with tenofovir/emtricitabine
  – **86/90% reduction with detectable drug** (86% with tenofovir and 90% with tenofovir/emtricitabine

Serodifferent Couples

- If the woman has HIV and the man does not have HIV
  - Viral suppression (ideally for at least 3-6 months) to protect partner AND prevent transmission to baby
  - Ovulation predictor kits
  - Home insemination ("turkey baster method") OR condomless sex once a month

Ovulation Predictor Kits

These test kits replace the old basal body temperature charts.
When the time is right, the choices are:

• Home insemination with partner’s semen

  The “turkey baster” method
  *A needle-less syringe works fine
Home Insemination

• During the 24 hours after the LH surge has occurred as documented by the ovulation predictor kit, ejaculate into a cup or into a condom without a spermicide

• Suction semen into a syringe

• Place syringe in vagina and deposit semen

• Remain lying down for 20 minutes

• Return to having sex with condoms

www.hiveonline.org
If a woman has HIV and a man does not have HIV, does he need to take PrEP?

IT DEPENDS

• Is her viral load undetectable?
• Is she consistently adherent to antiretrovirals?
• How anxious is he?
Serodifference

• If the man has HIV and the woman does not have HIV, consider:
  – Maximal viral suppression of the male
  – Ovulation predictor kit/timed intercourse
  – Pre-exposure prophylaxis (PrEP) for female
  – Assisted reproductive technology such as sperm washing has been used in the past (may reduce sperm functionality and may no longer be needed with optimal viral suppression and PrEP)
If the man has HIV and the woman does not have HIV, does she need to take PreP?

IT DEPENDS

• If he has a consistently undetectable viral load, maybe not
• However, even if he has an undetectable VL, virus may be present in the semen
• Also, women are more vulnerable to acquiring HIV from a man than vice versa

Politch JA et al. AIDS 26(12):1535-43, 2012
Risk of Transmission to Partner

• Barreiro
  – 62 serodiscordant couples (40 HIV+ men and 22 HIV+ women)
  – HIV+ partner on ART and VL < 500 for 6 months
  – Timed intercourse
  – No transmission of HIV to partner

Case

• 29 yo G2P1011 presents for preconception counseling. Her partner was diagnosed with HIV 6 months ago and they had been planning to have another child.

• What questions do you want to ask this couple?
Case

• 29 yo G2P1011 presents for preconception counseling. Her partner was just diagnosed with HIV 6 months ago and they had been planning to have another child.
  – Has she been tested for HIV?
  – Is he on ART?
  – What is his viral load? If undetectable, since when?
  – Do they usually use condoms?
  – What does she know about PrEP?
Antepartum Care for Women with HIV
What we know now

• 8075 mother-baby pairs followed 2001-2011
• NO perinatal transmission among the 2651 mothers who started ART prior to conception, continued during pregnancy, and had a VL<50 at delivery

Mandelbrot et al. Clinical Infectious Diseases 2015
Goal of antiretroviral therapy (ART) is to maintain a viral load below the limit of detection throughout pregnancy.

May start ART before genotype (test for resistance) result returns and adjust accordingly after genotype available.
CDC: Perinatally Infected Infants

- HIV-infected women delivering infants annually
  - ≈ 8700 in 2006\(^1\)
  - ≈ 30% increase since 2000
- HIV-infected infants born in 50 states
  - 1650 in 1991
  - 151 in 2009\(^3\)
  - 69 in 2013\(^4\)

The numbers may seem small but they represent the tip of the iceberg.

Without diagnosis and treatment during pregnancy/labor, 25% of women with HIV will deliver infants infected with HIV.
Combination antiretroviral therapy (ART)

• **ART naïve:**
  
  – Initiate ART as soon as HIV is diagnosed/earlier viral suppression is associated with lower risk of transmission.
  
  – Consider adding integrase inhibitor such as raltegravir or dolutegravir if high viral load (VL) late in pregnancy (expect 1 to 2-log decrease per week)

• **Monitoring in pregnancy:**
  
  – Check VL 2-4 weeks after initiating rx, monthly until undetectable, every 3 months, and at 34-36 weeks to inform decision regarding mode of delivery and optimal management of newborn

*Perinatal Guidelines November 2017 www.aidsinfo.nih.gov*
Lack of viral suppression

- Resistance vs. adherence
- Add integrase inhibitor such as raltegravir
- Consider directly observed therapy
- Scheduled Cesarean if VL>1000 at 38 weeks
Intrapartum Care for Women with HIV
Intrapartum

• IV zidovudine should be given intrapartum to women with a **VL >1000 copies/mL**

• Scheduled cesarean delivery is recommended at 38 weeks for women who fail to achieve virological suppression (**VL > 1000 copies/mL**)  

• Scheduled cesarean delivery performed solely for prevention of HIV transmission in women receiving ART and with HIV RNA <1000 copies/mL is NOT routinely recommended

*Perinatal Guidelines www.aidsinfo.nih.gov*
Intrapartum

- Duration of rupture of membranes matters less than what VL is

- Providers may contact the National Perinatal HIV Hotline (1-888-448-8765), which provides free clinical consultation on perinatal HIV care

Eppes, C. BJOG 2015. [www.bjog.org](http://www.bjog.org) 5-22-15*
Postpartum Care for Women with HIV
Postpartum

• Current recommendation is to stay on ART after delivery
• Contraceptive counseling is a critical step
• The postpartum period creates challenges to antiviral adherence, therefore a plan for postpartum should be made prior to delivery and discharge
  – Supportive services, transportation
  – Linkage to care
  – Appointments should be made prior to discharge
Risk of HIV acquisition increases in late pregnancy and postpartum

HIV infectivity per 1,000 sex acts

- **Unrelated to pregnancy**: 1.05 (95% CI: 0.55, 1.87)
- **Early Pregnancy**: 2.19 (95% CI: 0.66, 10.85)
- **Late Pregnancy**: 2.97 (95% CI: 0.72, 17.70)
- **Postpartum**: 4.18 (95% CI: 0.72, 17.70)

Calculated using a reference case of a 25-year old woman not pregnant, not using PrEP, with a partner with viral load of 10,000 copies/ml

**Thomson, K., Heffron, R. Female HIV acquisition. CROI March 2018, Boston, MA**
What do the Perinatal Guidelines say?

• Avoidance of breastfeeding has been and continues to be a standard, strong recommendation for women living with HIV in the United States, because maternal ART dramatically reduces but does not eliminate breastmilk transmission, and safe infant feeding alternatives are readily available in the United States.

• In addition, there are concerns about other potential risks, including toxicity for the neonate or increased risk of development of ARV drug resistance, should HIV transmission occur, due to variable passage into breastmilk.

Infant Feeding

• However, clinicians should be aware that women may face social, familial, and personal pressures to consider breastfeeding despite this recommendation; this may be particularly problematic for women from cultures where breastfeeding is important, as they may fear that formula feeding would reveal their HIV status.

• It is therefore important to address these possible barriers to formula feeding during the antenatal period.

• Similarly, women with HIV infection should be made aware of the risks of HIV transmission via premastication (prechewing or prewarming) of infant food.
Collaborative Harm Reduction Strategy

- Ensures optimal maternal treatment
  - Prenatal referral to Pediatric team
  - Coordinates feeding with birth hospital

- Educates mother on risks/benefits
  - Guides nursery pediatric team
  - Addresses feeding/weaning issues
  - Infant testing

- Obstetric team

- Pediatric team

- Mother

- Understands risks
  - Virologic suppression
  - Prepares ahead for complications
  - Family support
Conclusions: does U = U?

• **Preconception**  U = U if partner living with HIV is taking ART daily and has an undetectable viral load

• **During pregnancy** U = U for her baby if a woman is on ART prepregnancy, during pregnancy, and has an undetectable VL at delivery

• **Postpartum**: a lot of variables:
  
  – women more vulnerable to HIV acquisition during third trimester and postpartum period
  
  – postpartum cannot say U = U when it comes to breastfeeding but each woman must do her own risk:benefit assessment
THANK YOU!