Impact of Offering PrEP Choice on HIV Incidence in High-Risk Pregnant and Postpartum Women in Kenya: Simulation analysis from a discrete choice experiment

Abstract #1008

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BACKGROUND

HIV incidence remains a significant concern among pregnant and postpartum women. Offering multiple HIV PrEP options can increase coverage and use, yet the impact on HIV infections averted with implementation of various long-acting (LA) HIV PrEP options during the perinatal period is unknown.

METHODS

- Developed an equation to project HIV incidence during pregnancy and postpartum.
- Compared a reference scenario (oral PrEP only) to five LA-PrEP scenarios:
  1. Oral/Ring
  2. Oral/Ring/Injectable
  3. Oral/Ring/Injectable/Event-Driven
  4. Oral/Ring during pregnancy; Oral/Ring/Injectable/Event-Driven during postpartum
  5. Ring/Injectable/Event-Driven as second-line PrEP for those who discontinued Oral PrEP
- Incorporated data on:
  - Uptake rates for different PrEP types, simulated from discrete choice experiment data (Figure 1)
  - Adherence and efficacy estimates from the literature
  - Baseline HIV risk, based on HIV risk score equating to an HIV incidence of 7.3 per 100 PY (*CID* 2017)

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Offering long-acting PrEP during pregnancy and postpartum could **reduce maternal HIV and vertical transmission (VT) by 40%** compared to daily oral PrEP alone

RESULTS

Scenario 1: *Oral/ Ring*
- 23.4% reduction in maternal HIV incidence
- 22.7 VT cases averted

Scenario 2: Oral/ Ring/ Injectable
- 40.1% reduction in maternal HIV incidence
- 38.9 VT cases averted

Scenario 3: *Oral/ Ring/ Injectable/ Event-Driven*
- 34.8% reduction in maternal HIV incidence
- 33.5 VT cases averted

Scenario 4: *Oral/ Ring in pregnancy and Oral/ Ring/ Injectable/ Event-Driven in postpartum*
- 34.5% reduction in maternal HIV incidence
- 33.6 VT cases averted

Scenario 5: *Ring/ Injectable/ Event-Driven as second-line PrEP*
- 25.6% reduction in maternal HIV incidence
- 24.5 VT cases averted

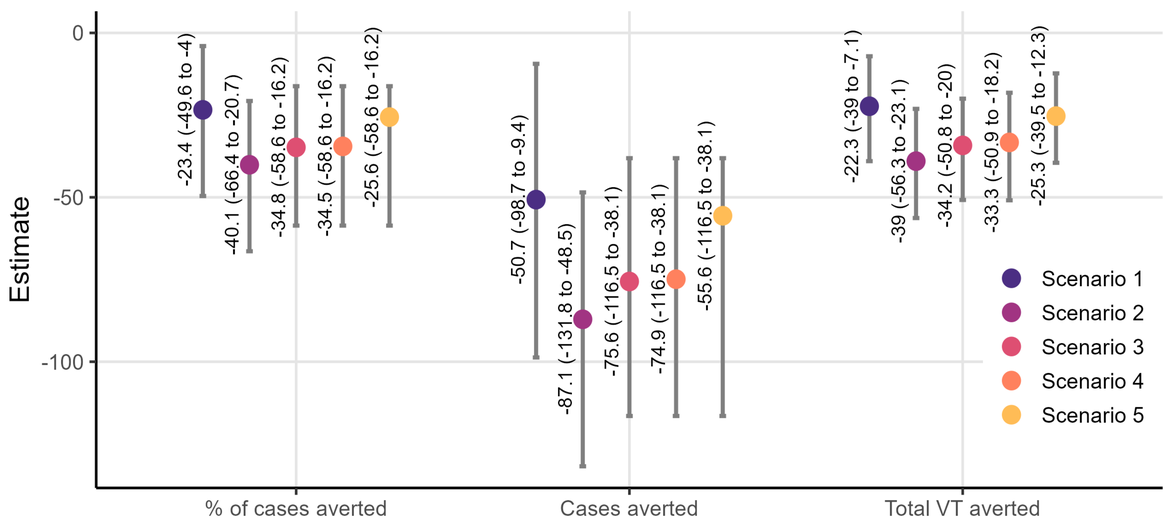


Figure 2: Impact of PrEP choice scenarios on percent of cases averted, total cases averted, and total vertical transmission cases averted based on uptake, adherence, and efficacy for PrEP options among women with high HIV risk during pregnancy and postpartum

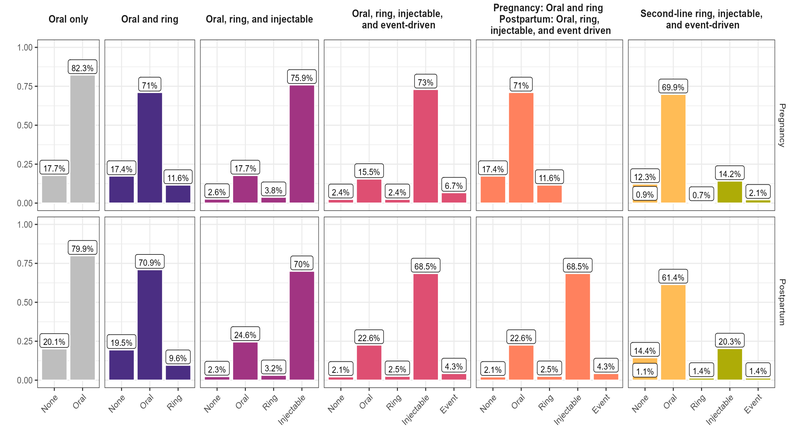


Figure 1: Uptake rates for PrEP options during pregnancy and postpartum, based on discrete choice experiment data among 512 women with high HIV risk

CONCLUSIONS

- LA-PrEP scenarios resulted in greater reductions in maternal HIV and VT compared to oral PrEP alone.
- Scenarios with universally available injectable PrEP (e.g., Oral/Ring/Injectable and Oral/Ring/Injectable/Event-Driven) had the largest reductions.
- LA-PrEP available only postpartum also achieved substantial reductions.
- Using LA-PrEP as a second-line intervention was more effective than oral PrEP alone but less effective than comprehensive approaches.
- Injectable and event-driven PrEP could reduce maternal HIV and VT by up to 40% among high-risk peripartum women and infants.

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