STIs in the Context of HIV Prevention

Session 3: Concurrent Discussion on State of Prevention Research

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Introduction

- PrEP prevents HIV acquisition among HIV negative people who engage in risk behavior
- Is it possible that the protective effect of PrEP is offset by risk compensation?
- The observed increase in STI incidence is higher among men than women, which raises concern about risk compensation among PrEP users
What may explain the perceived increase in STI incidence

1- Increased diagnosis
   - Improved screening, new and more sensitive tests, testing new body sites

2- Increased transmission
   - Increase in condomless sex and on number of sexual partners, persistence of untreated STIs due to lack of health care access
CDC Recommendations for PrEP

1- Offer to HIV negative people who are at risk of acquiring HIV due to:
   Sexual risk behaviors
   Substance use
   Recent bacterial STI (<6 months)

2- Recommendations that are part of PrEP:
   Consistent use of condom
   HIV testing every 3 months
   Bacterial STI screening (C/G/syphilis) at least every 6 months
Male Ct, GC, P&S syphilis, and HIV diagnoses, case rates (per 100,000), United States, 2007-2016

Source: Julia Schillinger, MD CDC, presented at CROI 2018, March 6th, Symposium S-7
Evidence of increases in transmission of bacterial STI

Male rectal Ct/GC, urethral GC, and P&S syphilis, New York City, 2007-2016

Source: Julia Schillinger, MD CDC, presented at CROI 2018, March 6th, Symposium S-7
Factors involved in the PrEP/STI scene

1- Increases in STI diagnosis were identified before PrEP and HPTN 052 but an steep increase is evident afterwards

2- Increase in sexual risk behaviors predates PrEP

3- Increased detection is a likely explanation as well
Factors involved in the PrEP/STI scene

• 4- It is unlikely that the increase in STI diagnosis is entirely due to PrEP given the number of PrEP users,

• 5- There is also evidence for true increases in transmission

• 6- Community and individual-level of risk compensation likely contribute to the observed increases in STI diagnosis among MSM
What aspects play a role in the increased STI detection?

• 1- STI screening is an important aspect of PrEP (active search for cases, leading to increased diagnosis including asymptomatic)
• 2- Increase in condomless sex
• 3- Increase in number of sex partners
• 4- More laboratories able to perform new diagnostic methods (NAAT)
Effects of Pre-exposure Prophylaxis for the prevention of HIV Infection on Sexual Risk Behavior in Men Who Have sex with Men: A Systematic Review and meta-analysis.
Traeger MW et al. Clinical Infectious Diseases- doi.org/10.1093/cid/ciy182 March 2, 2018

- Systematic review of 16 observational studies and 1 open label trial: eight (4388 participants reported STI prevalence and 13 (5008 participants) reported change in condom use.
- PrEP use was associated with a significant increase in rectal chlamydia and na increase in any STI diagnosis
Effects of Pre-exposure Prophylaxis for the prevention of HIV Infection on Sexual Risk Behavior in Men Who Have sex with Men: A Systematic Review and meta-analysis.
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- The association of PrEP use and STI diagnosis was stronger in later studies
- Most studies showed evidence of an increase in condomless sex after PrEP initiation
Discussion

1- Interventions on STI are needed
   – Regular STI screening
   – Promote condom use

2- STI have always been a valuable marker of HIV risk, which is changing with PrEP

3- Clearly, more data is needed

4- Need to measure risk compensation on the community and individual level
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