Doxycycline as an Intervention for Bacterial Sexually Transmitted Infection ChemOprophylaxis (DISCO) study: Design of a national, multicentre randomized-controlled trial

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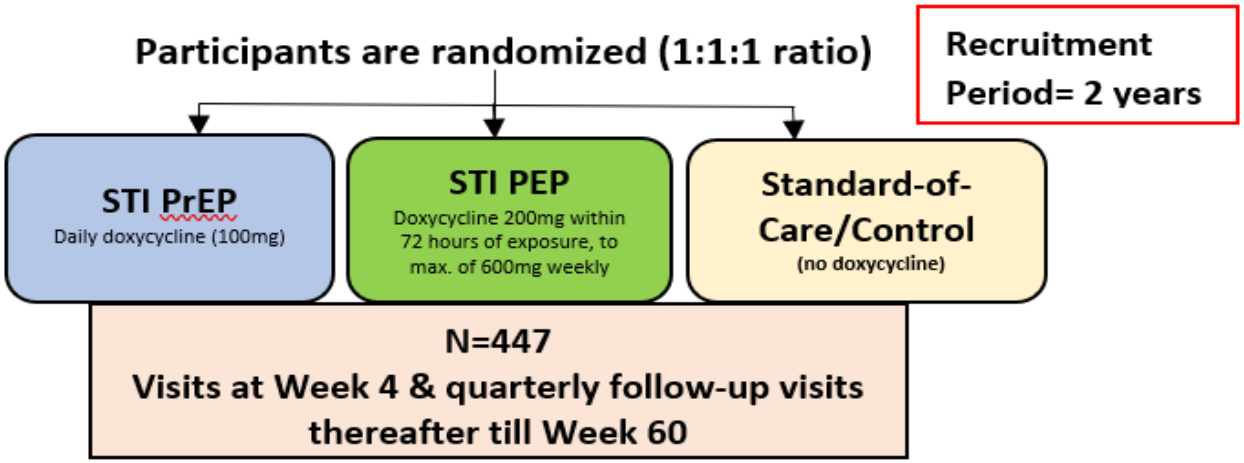
Introduction

- Bacterial STIs (i.e. syphilis, chlamydia and gonorrhea) have been increasing dramatically, disproportionately affecting gay, bisexual, and other men who have sex with men (gbMSM).
- Doxycycline has shown promise in preventing STIs in small studies.
- A larger study is warranted on **doxycycline for STI prevention** to definitively assess efficacy, safety, and antimicrobial resistance (AMR) – a potential, risk factor of unclear significance.
- The **DISCO study** will assess **efficacy, tolerability**, and **acceptability** of doxycycline in preventing incident bacterial STIs *over the long-term*.

Methods

- **Study Design:** prospective, open-label, multi-centre, three-arm randomized controlled trial
- **Study Population:** Adult gbMSM and transgender women who are sexuallv active & with a recent (≤12 months) STI



1◦ Outcomes: Incident STIs over study period

2◦ Outcomes: Organism-specific STI incidence, tx-emergent AEs, Δs in sexual-risk behaviour, AMR patterns of commensal nasopharyngeal organisms, tetracycline resistance in gonorrhea & medication adherence; cost-effectiveness ratio for each doxycycline strategy vs. SOC

Anticipated Results

- We hypothesize that doxycycline as both STI-PrEP and -PEP will be efficacious in preventing incident STIs compared to standard of care.
- Additionally, we speculate that doxycycline will be an acceptable, well-tolerated intervention with little-to-no impact on AMR.

Conclusion

- This randomized-controlled trial will be the first of its kind to compare STI PrEP & STI PEP.
- Study findings have the potential to provide evidence of their efficacy, safety, and AMR profiles to reduce the impact of STI-related complications among gbMSM & transgender women.

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