# *Prevalence, incidence, and associated risk factors of STIs during pregnancy in South Africa*

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## BACKGROUND

- Global estimates of the prevalence of Sexually transmitted infections (STIs) remain high with approximately one million new infections per day.
- STIs during pregnancy may increase adverse pregnancy and birth outcomes, HIV acquisition and perinatal transmission risk of HIV (MTCT).
- Syndromic management for STIs is standard of care in South Africa including in antenatal clinics (ANC). We evaluated the prevalence and incidence of STIs in pregnant women in South Africa.

## METHODS

- We collated data of two observational prospective studies of pregnant women enrolled while attending first ANC visit in **Tshwane District and Cape Town, South Africa**.
- Women self-collected vulvovaginal swabs, tested at first ANC visit for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoea* (NG) and *Trichomonas vaginalis* (TV) using Xpert® assays (Cepheid, USA) as well as at first visit postpartum.
- Evaluated the prevalence of STI at first ANC visit for 669 pregnant women and factors associated using logistic regression
- Further estimated the incidence of STI and factors associated with time to incident STI using Poisson regression with robust standard errors.

## RESULTS

- 669 pregnant women were enrolled, 80% HIV+ and 20% HIV-.
- At enrolment, median age was 30 years(IQR 25 – 34) and median gestational age was 18 weeks (IQR 13-24)
- 89% reported having vaginal sex during pregnancy and 22% reported STI symptoms.

### *Prevalence of STIs*

- Overall, 37% (n=250) were diagnosed with at least one of CT, NG and or TV at first ANC visit (Fig 1) with 40% (n=213) in HIV+ women and 27% (n=37) in HIV- women.
- 76% (n=190) had asymptomatic STI

**Incidence of any STI during pregnancy and early post-partum was 15 infections per 100 women-years and similar by HIV status.**

**Majority of STI cases were asymptomatic providing compelling evidence to employ a rapid diagnostic test for STI screening during pregnancy in South Africa.**

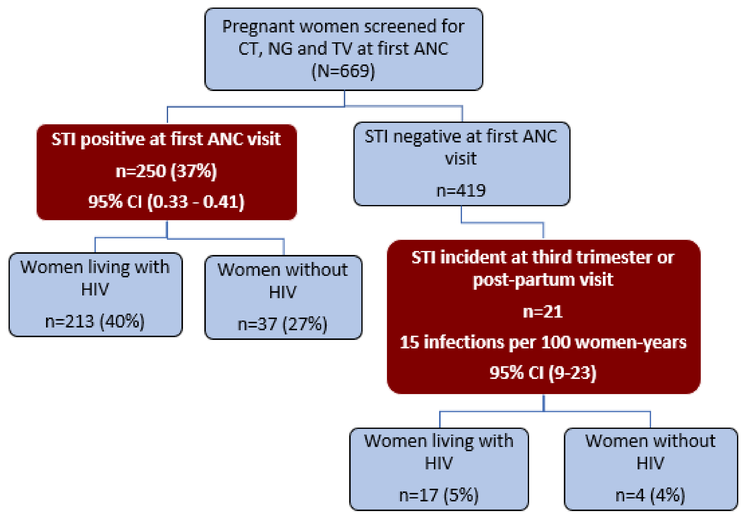


Figure 1: Prevalence and incidence of curable STI in pregnant women screened at first antenatal visit in South Africa (2016 -2019)

## RESULTS CONTINUED

### *Prevalence of STIs*

- By STI type: CT mono-infection was the most common STI in both HIV+ and HIV- women (15.3 vs 14.8), followed by TV mono-infection higher in HIV+ women (10% vs 6%) (Fig 2)
- NG and TV coinfection occurred only in HIV+ women (1%) (Fig 2)
- Younger maternal age, increased gestational age at baseline and single relationship were associated with STI prevalence

### *Incidence of STIs*

- Of 419 pregnant women who were not infected with a STI, 21 had an incident STI during pregnancy or immediate postpartum with median follow up time of 140 days (IQR: 98 – 168) (Fig 1)
- Of the women with incident STI, 81% (n=17; 5% of WLHIV) infections occurred in WLHIV
- Higher level of education was associated with an incident STI infection.
- 19% (n = 4; 4% of women without HIV) in women without HIV and younger maternal age was associated with incident STI

## CONCLUSIONS

- Our study shows high prevalence and incidence of STIs in pregnancy.
- Prevalence was much higher in HIV+ women, demonstrating the need for appropriate STI screening and treatment in ANC to prevent MTCT of STIs and HIV.
- Majority of the STI cases were asymptomatic and they would have gone undiagnosed and untreated with syndromic management

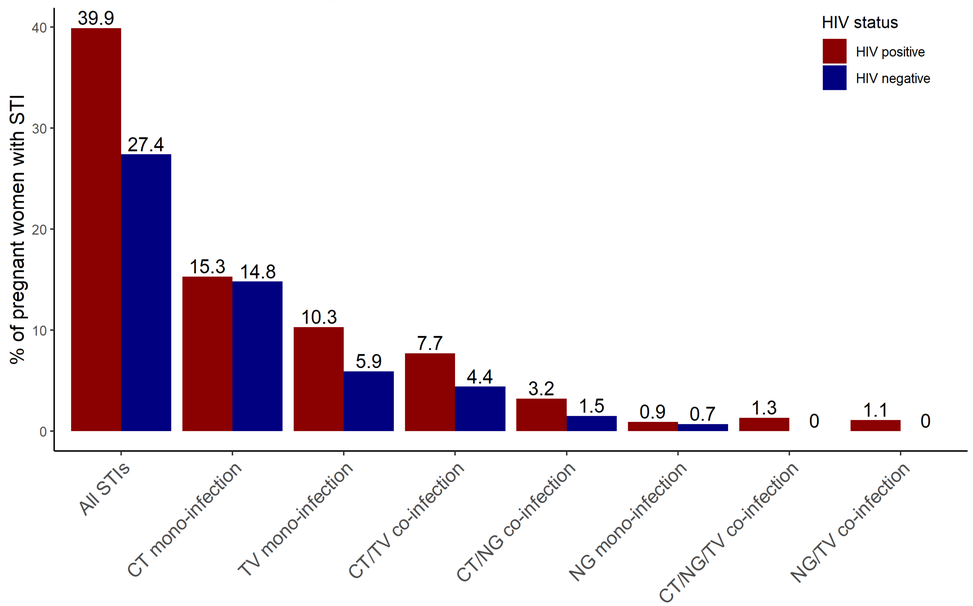


Figure 2: STI prevalence in pregnancy by HIV status

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