Prevalence and incidence of STIs during pregnancy in South Africa

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Dorothy C. Nyemba [1, 2], Remco P.H Peters[3,4, 5], Jeffrey D. Klausner[3, 5], Phuti Ngwepe[4], Leigh Jonhson[2], Andrew Medina-Marino[4,7], Landon Myer[1,2,] Dvora Joseph Davey[1, 3]

[1]Division of Epidemiology and Biostatistics, University of Cape Town, Cape Town, South Africa, [2]CIDER, University of Cape Town, Cape Town, South Africa, [3]Foundation for Professional Development, Research Unit, South Africa, [4]Maastricht University Medical Centre, Department of Medical Microbiology, Maastricht, The Netherlands, [5]University of Pretoria, Department of Medical Microbiology, Pretoria, South Africa [6] David Geffen School of Medicine, University of California Los Angeles, USA [7]Desmond Tutu HIV Centre, University of Cape Town, Cape Town, South Africa.

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.

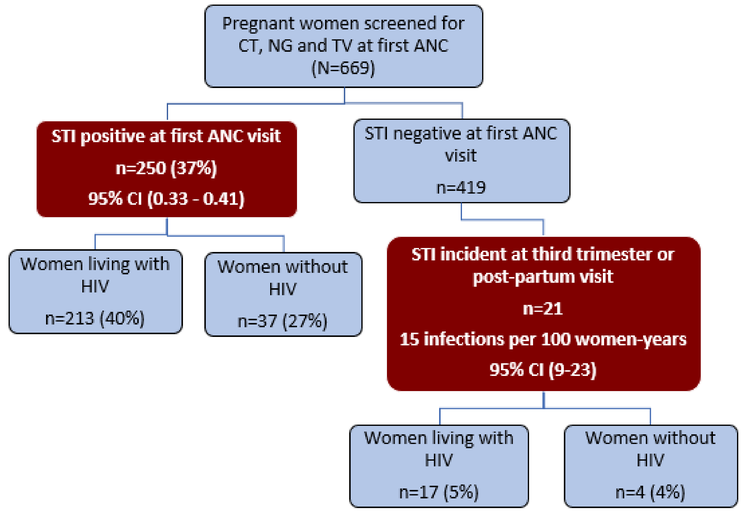

Figure 1: Prevalence and incidence of curable STI in pregnant women screened at first antenatal visit in South Africa (2016 -2019)

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

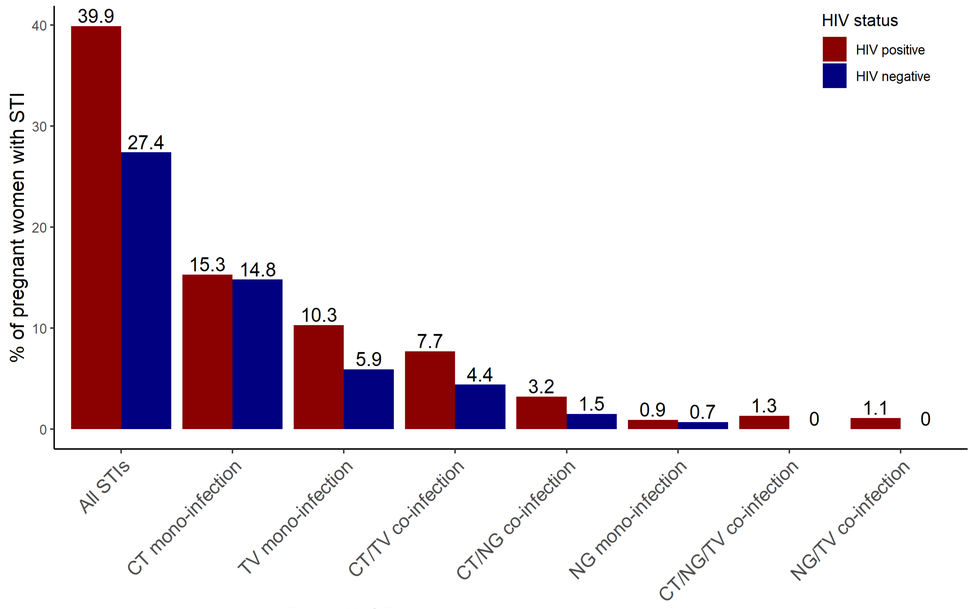

Figure 2: STI prevalence in pregnancy by HIV status

School of Public Health and Family Medicine
Isikolo Sempilo Yoluntu kunye Namayeza Osapho
Departement Openbare Gesondheid en Huisartskunde
UNIVERSITY OF CAPE TOWN

UCLA FIELDING SCHOOL OF PUBLIC HEALTH

Foundation for Professional Development

CIDER Center for Infectious Disease Epidemiology and Research

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