

HIGH INCIDENCE OF CURABLE SEXUALLY TRANSMITTED INFECTIONS IN HPTN 084: A TERTIARY ANALYSIS

Harriet Nuwagaba-Biribonwoha¹, Brett Hanscom², Daniel Haines², Yaw Agyei³, Joseph Makhema⁴, Juliet Mpendo⁵, Nyaradzo Mgodi⁶, Victor Mudhune⁷, Jennifer Farrior⁸, Lydia Soto-Torres⁹, James F. Rooney¹⁰, Alex Rinehart¹¹, Mina Hosseinipour¹², Sinead Delany-Moretwe¹³, and the HPTN 084 team.

¹Eswatini Prevention Center CRS, ICAP at Columbia University, Mailman School of Public Health, New York, NY, USA; ²Statistical Centre for HIV/AIDS Research Prevention, Fred Hutchinson Cancer Research Institute, Seattle, WA, USA; ³Department of Pathology, Johns Hopkins University School of Medicine, Baltimore, MD, USA; ⁴Botswana Harvard AIDS Institute Partnership, Gaborone, Botswana; ⁵Uganda Virus Research Institute, International AIDS Vaccine Initiative, Entebbe, Uganda; ⁶University of Zimbabwe Clinical Trials Research Centre, Harare, Zimbabwe; ⁷Kenya Medical Research Institute, Center for Global Health Research, Kisumu, Kenya; ⁸FHI 360, Durham, NC, USA; ⁹Division of AIDS, National Institute for Allergy and Infectious Diseases, Rockville, MD, USA; ¹⁰Gilead Sciences, Foster City, CA, USA; ¹¹ViiV Healthcare, Durham, NC, USA; ¹²University of North Carolina, Chapel Hill, NC, USA; ¹³Wits RHI, University of the Witwatersrand, Johannesburg, South Africa

BACKGROUND

Sexually transmitted infections (STIs) can signal ongoing risk of HIV acquisition and have adverse reproductive health sequelae.

We assessed STI disease burden among women participating in the HPTN 084 trial during the blinded and unblinded period.

METHODS

HIV uninfected women ages 18-45 years (y) enrolled in HPTN 084 were tested and treated for *Chlamydia trachomatis* (CT), *Neisseria gonorrhoea* (NG) and *Trichomonas vaginalis* (TV) at baseline and every 6 months. We assessed:

- Baseline STI prevalence
- Post-baseline STI incidence rates
- STI recurrence (≥ 2 episodes of CT, NG or TV >5 months apart)
- Concurrent STIs (≥ 2 STIs diagnosed within 7 days)

Correlates of incident STIs were estimated using multiple regression. Cabotegravir (CAB) PrEP efficacy in the blinded study period was compared for people with and without STIs using Cox regression.

Table 1. STI Prevalence at baseline by demographic characteristics

| | N | Any STI | CT | NG | TV |
|----------------------------------|------|---------|-------|------|-------|
| | 900 | 28.1% | 18.9% | 6.6% | 8.4% |
| Age Group | | | | | |
| 18-24 years | 1578 | 32.5% | 23.6% | 7.9% | 8.7% |
| 25+ years | 1620 | 23.9% | 14.5% | 5.3% | 8.6% |
| Country | | | | | |
| Botswana | 91 | 27.8% | 24.4% | 5.6% | 0.0% |
| Kenya | 66 | 16.7% | 15.2% | 1.5% | 0.0% |
| Malawi | 224 | 25.4% | 10.4% | 7.2% | 11.8% |
| South Africa | 1290 | 30.9% | 24.8% | 7.6% | 5.1% |
| Eswatini | 152 | 27.0% | 16.9% | 5.4% | 6.6% |
| Uganda | 596 | 24.2% | 15.0% | 6.1% | 9.0% |
| Zimbabwe | 779 | 28.8% | 14.9% | 5.9% | 15.3% |
| Education | | | | | |
| None/Any Primary | 538 | 23.2% | 12.3% | 6.5% | 10.8% |
| Any Secondary | 2316 | 29.5% | 20.1% | 6.7% | 8.9% |
| Any Post Secondary | 344 | 26.7% | 21.6% | 6.2% | 3.5% |
| Marital Status | | | | | |
| Married or living as married | 564 | 17.8% | 8.9% | 3.4% | 8.0% |
| Has partner, not living together | 1708 | 30.0% | 22.1% | 7.1% | 7.3% |
| Single/Divorced | 917 | 31.1% | 19.4% | 7.6% | 11.6% |
| Widowed | | | | | |

28.2% Women who had STIs at baseline

35.0 STI events per 100 person years over the follow-up period

14.7% Women who had recurrent STIs over the follow-up period

RESULTS

- Of 3198 women tested for STIs (median age 25y), 28.2% had an STI at baseline, most commonly CT (Table 1).
- Among 2983 (92.5%) women with follow-up data, 2646 incident STI events occurred over 7557 person years (PY), incidence rate (IR) 35.0 events/100PY [95% CI 33.7-36.4] (Fig 1).
- STI IRs ranged from 16.6 events/100PY in Kenya to 41.6 events /100PY in Eswatini.
- STI recurrence occurred among 438/2981 (14.7%) of the women, CT recurred commonly (among 297/2981, 10.0% women).
- Concurrent STIs were observed among 171/3198 (5.1%) of women at baseline and 272/2981 (9.1%) during follow-up.
- In multivariable analyses, STI incidence was significantly higher among women 18-24y vs. women 25+y; among single women and women not living with their partners vs. women married/living as married; and women with no/primary education and secondary education vs. those with higher education (Fig 2).
- There was no difference in CAB efficacy by STI status. The hazard ratio [HR] comparing HIV risk in the CAB group versus the TDF/FTC group was 0.08, 95% CI 0.02-0.35 among women who had STIs vs 0.14, 95% CI 0.03-0.61 among women without STIs, $p=0.62$.

Figure 1. STI disease burden among women 18-49 years participating in the blinded and unblinded period of the HPTN 084 PrEP trial, Nov-2017 to Sep-2023.

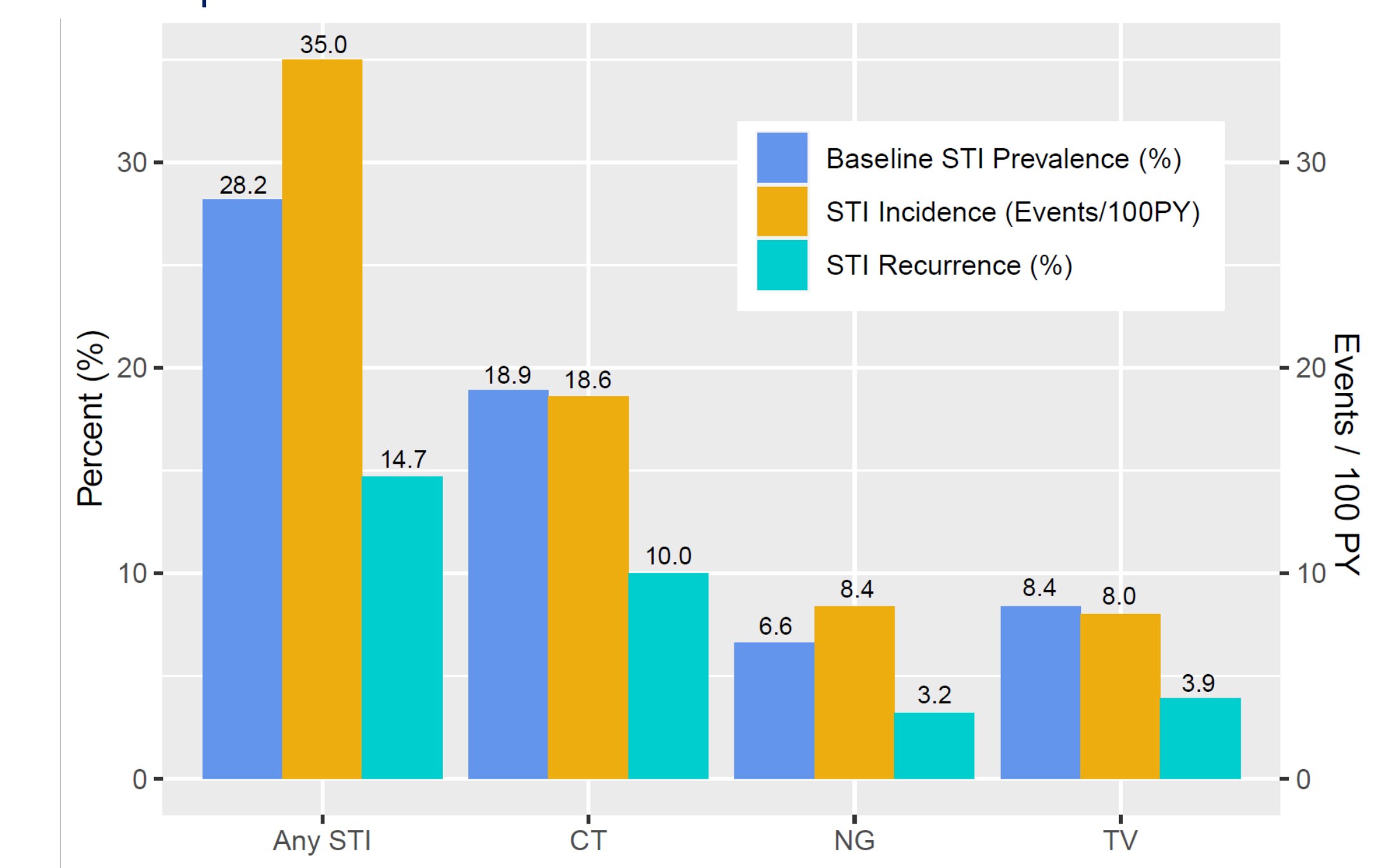
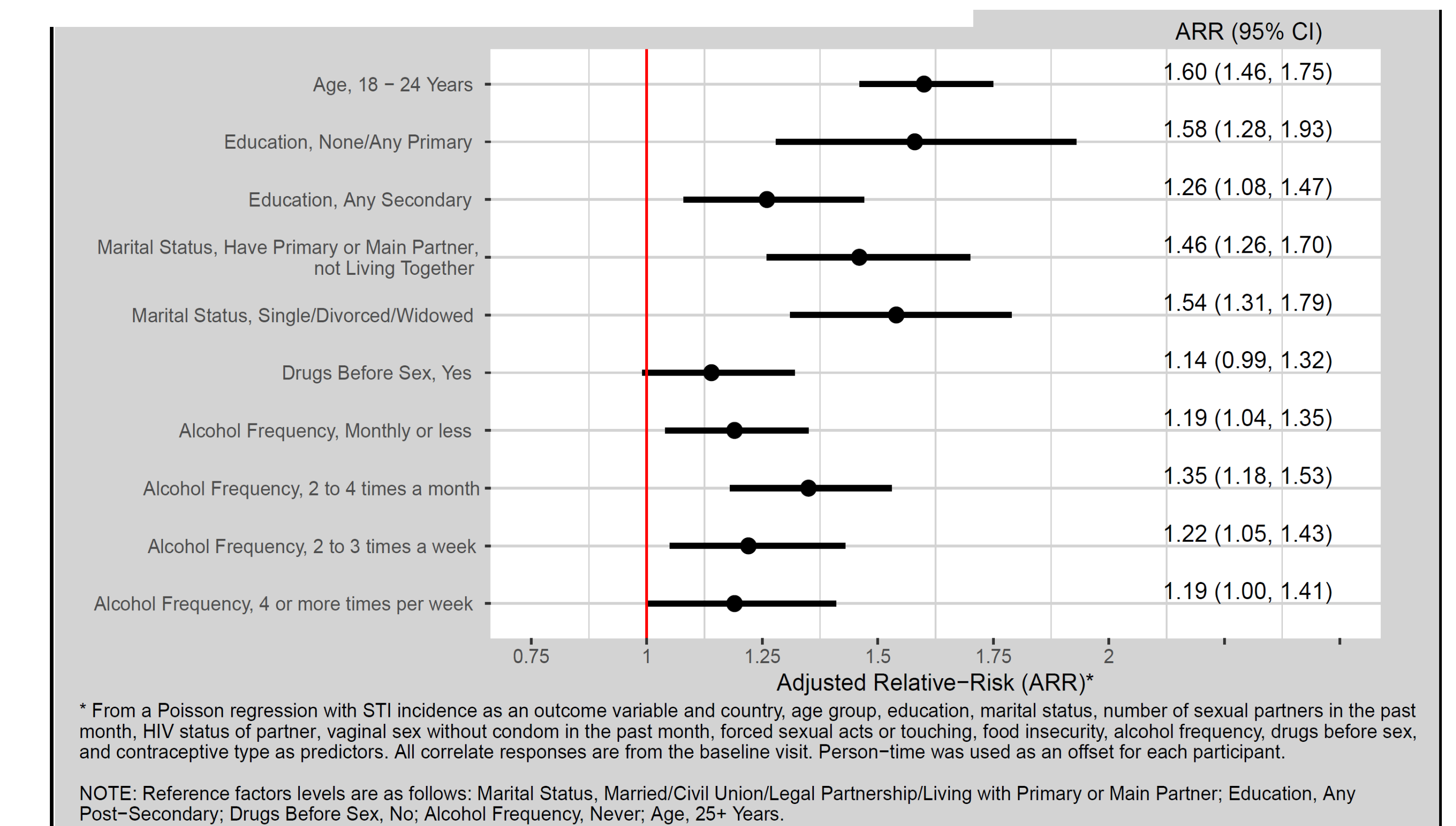


Figure 2. Correlates of incident STIs over the observation period



CONCLUSIONS

The prevalence, incidence and recurrence of curable bacterial STIs was high in this cohort of women accessing PrEP and HIV prevention services. These findings highlight the urgent need to prioritize investments in novel, multipurpose, and scalable interventions to prevent STIs and HIV among these women and their partners.

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