Trichomonas vaginalis risk and cofactors in pregnant/postpartum Kenyan women

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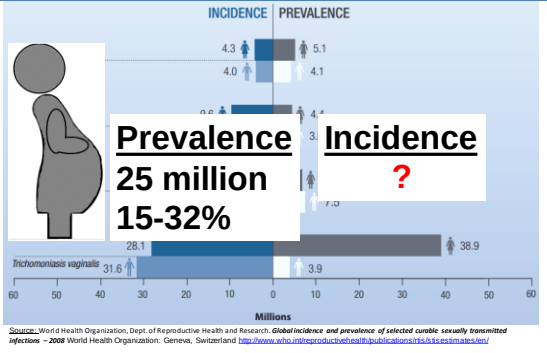
Disclosures

- No conflicts of interest to declare

WHO: Prevalence & incidence of curable STIs, African region (2008)



Prevalence
25 million
15-32%

Incidence
?

Source: World Health Organization, Dept. of Reproductive Health and Research. ***Global incidence and prevalence of selected curable sexually transmitted infections – 2008*** World Health Organization: Geneva, Switzerland http://www.who.int/reproductivehealth/publications/rtis/stis estimates/en/

T. vaginalis infection ♀

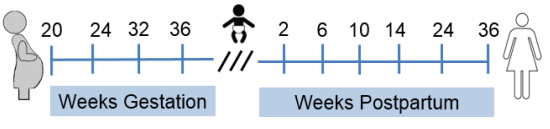
- **2.7-fold ↑ HIV acquisition risk** Kissinger & Adamski (2013); Laga et al (2007); McClelland et al (2007); Van Der Pol et al (2008); Mavedzenge et al (2010)
- **4.7-fold ↑ pelvic inflammatory disease risk** Moodley et al (2002); Paisarntantiwong et al (1995)
- **1.3-fold ↑ preterm labor risk** Cotch et al (1997); Mullick et al (2005); Minkoff et al (1984); Johnson et al (2011); Azargoon et al (2007); Mathai et al (1998)
- **Unclear epidemiology in pregnancy/postpartum**

Aims

- **Estimate *T. vaginalis* prevalence and incidence in pregnant/postpartum HIV-uninfected women**
- **Determine cofactors for incident *T. vaginalis* infection**

Methods

- **Design: Prospective**
- **Setting: 2 facilities in Western Kenya**
- **Population: HIV-uninfected ♀; >14 years old; >14 weeks gestation**



- **Laboratory method: Wet mount microscopy**
- **Treatment: Metronidazole per national guidelines**

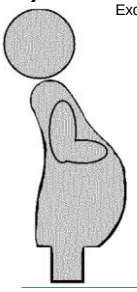
Statistical analysis

- **Incident infections**
  - Excludes women with prevalent *T. vaginalis* at enrollment
  - Excludes recurrent infection
- **Cox proportional hazards models**
  - Time-to-first-event
- **Adjustment for cofactors (alpha = 0.10) in univariate**

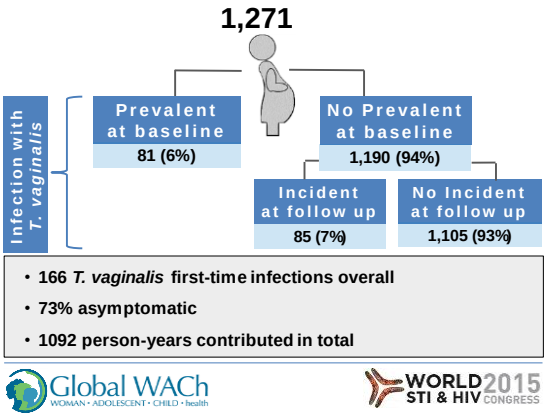
Results

1,271 (97% of total study population)

Excl. HIV seroconverters (n=25); no *T. vaginalis* assessment (n=8)



- **Median**
  - Age 22 years (IQR 19-27)
  - Gestational age 22 weeks (16-26)
  - Follow up time 0.9 years (IQR 0.8-1.1)
- **Frequency**
  - 78% married
  - 55% reported condomless sex
  - 9% other curable STIs

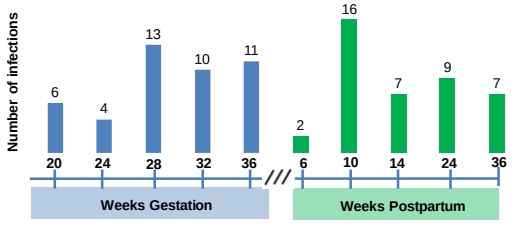


- **166 *T. vaginalis* first-time infections overall**
- **73% asymptomatic**
- **1092 person-years contributed in total**

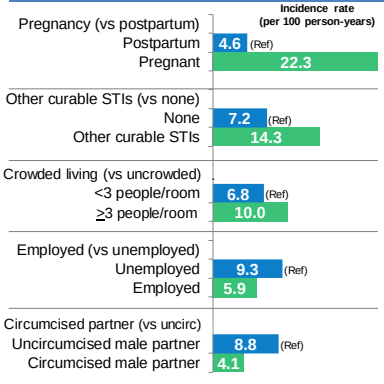
T. vaginalis incidence

7.8 (95% CI 6.3-9.6) per 100 person-years

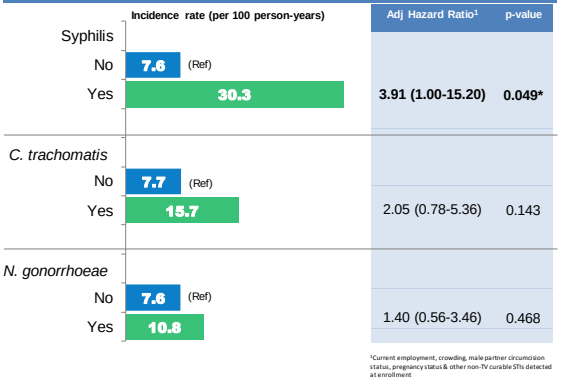
Pregnancy	Postpartum
22.3 (95% CI 16.6-29.9) per 100 person-years	4.6 (95% CI 3.4-6.2) per 100 person-years



Cofactors for incident *T. vaginalis*



Cofactors for incident *T. vaginalis*

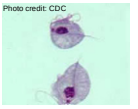


[1]Current employment, crowding, male partner circumcision status, pregnancy status & other non-TV curable STIs detected at enrollment

Main findings & Implications

- **Appreciable incidence, frequently asymptomatic**
  - 72-88% of peripartum infections asymptomatic Kurewa (2010); Moodley (2015)
- **Increased incidence in pregnancy, with other STIs**
- **Reduced incidence with male partner circumcision**
  - adjPRR, 0.52 (95% CI 0.05-0.98) Gray (2009)
  - adjHR 1.05 (95% CI 0.80-1.36) Turner (2008)

Limitations



- **Wet mount – low sensitivity**
  - Prevalence/incidence likely underestimated Garber et al (2005)
- **Women-reported male partner characteristics**
  - Potential over-reporting of male circumcision Hewett et al (2012)
  - <10% misreport male partner circumcision status Kong et al (2013)

Conclusions

- Incidence of *T. vaginalis* was common, higher in pregnancy
- Improved detection of asymptomatic infections is needed
- Male circumcision may confer benefits for female partners against *T. vaginalis* infection

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