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Background The ideal vaginal microbicide should reduce the risk of HIV infection and other reproductive tract infections (RTIs) while preserving the integrity of the cervicovaginal epithelium. Future microbicides and multipurpose prevention technologies (MPT) could improve maternal reproductive health and prevent multiple sexually transmitted infections.
Objectives and Methods The Microbicide Safety Biomarkers Study is a prospective cohort study of 110 adults, 30 adolescents and 30 pregnant women in Kenya and South-Africa, 30 women engaging in vaginal practises in South-Africa and 30 high-risk and 30 HIV-positive women in Rwanda. RTIs and biomarkers of the vaginal microbiome and inflammation were studied.
Results Baseline prevalence RTI data are presented in the table. A significant difference (p = 0.027 to 0.001) between the study groups was present for all RTIs except for *Trichomonas vaginalis* (TV). *Neisseria gonorrhoeae* (NG), syphilis and HSV-2 were associated (p = < 0.001) with sexual risk taking behaviour (sex worker OR at least 3 partners last year OR at least one sexual partner with HIV in the past 3 months OR age first sex less than 15 years). HSV-2 was detected in 51.5% of the high risk-takers compared to 28.6% of the low risk-takers. For women with bacterial vaginosis (Nugent 7–10) *Chlamydia trachomatis* (CT) (p = < 0.028) was present in 14.9% and TV (p = < 0.001) in 9% compared to 6.3% and 1.5% in women without BV (Nugent 0–3), respectively.

Abstract P3.060 Table 1

Group	HSV-2	CT	NG	Syphilis	TV	Candida
Adults	34.0%	10%	0.9%	0%	3.7%	19%
Pregnant	26.7%	10%	0%	1.7%	6.8%	40%
Adolescents	6.7%	6.7%	0%	0%	6.8%	20%
Vaginal Practices	45.2%	26.7%	3.3%	0%	14.3%	33.3%
High risk	46.6%	10%	6.7%	6.7%	10%	10%
HIV-positive	82.8%	0%	13.3%	20%	10%	13.3%

Conclusion RTIs are common among African women targeted for microbicide trials. The introduction of a MPT targeting a combined prevention of HIV and HSV-2 is warranted in these populations.

P3.061 *MYCOPLASMA GENITALIUM* DNA DETECTED FROM ADOLESCENT MALES IN A LONGITUDINAL COHORT

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Background *Mycoplasma genitalium* (MG) causes non-gonococcal urethritis as well as asymptomatic infections although most data on the incidence and natural history of MG is from adults.
Methods Participants were 14–17 year old men in a longitudinal study of STI and the urethral microbiome. Urine samples were collected monthly and batch tested retrospectively for MG DNA using PCR. Urine samples were tested in real-time for chlamydia, gonorrhoea, trichomonas and white blood cells (WBC): infections by these organisms were treated. White blood cell count (WBC) was measured by automated cell count of fresh urine. Dysuria and urethral discharge were self-reported on cell phone diaries.
Results Among 75 participants (mean age 16.0 at enrollment), 6 (8.0%) men have at least one MG positive sample, with a total of 14 MG positive monthly urine samples. The prevalence of Chlamydia or gonorrhoea infection was 19/75 (25.3%) and 1/75 (1.3%), respectively. All but one participant was positive for at least two consecutive months, and one participant was positive for 4 consecutive months. One participant was positive only once, was co-infected with chlamydia, but treatment could not be confirmed. No other MG positive visits occurred simultaneously with other STI. None of the participants reported symptoms or sexual behaviours within a 15 day window of the positive visit. Average urine WBC was 21.8 WBC/ml urine although only 3/14 MG positive samples were associated with urine WBC > 28.5/ml (commonly used as a diagnostic threshold for pyuria).
Conclusions MG in adolescent men is more common than gonorrhoea, persistent without treatment for up to 120 days, and is typically not associated with symptoms or pyuria. These data add to emerging understanding of the prevalence and natural history of sexually transmitted MG and support the importance of more detailed understanding of sexual and reproductive health morbidity associated with these infections.

P3.062 MYCOPLASMA GENITALIUM PREVALENCE AND RISK FACTORS AMONG YOUNG SEXUALLY ACTIVE WOMEN IN THE GENERAL POPULATION AND ATTENDING SEXUALLY TRANSMITTED INFECTION CLINICS IN LONDON, UK

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Background *Mycoplasma genitalium* is a sexually transmitted infection (STI) associated with cervicitis, endometritis and pelvic inflammatory disease in women. There is a lack of data on *M.genitalium* in the United Kingdom. We conducted a study to determine its prevalence and risk factors among sexually active young women in the general population and attending STI clinics.
Methods First catch urine samples, self-taken vaginal and cervical swabs from 4644 women in the National Chlamydia Screening Programme (NCSP) and attending two London STI clinics were tested for *M. genitalium* by quantitative real-time PCR, confirmed by MgPa 1–3 genotyping. *C.trachomatis* results, demographic, sexual behaviour (NCSP only, 2470 women) and STI (clinics only, 2174 women) data were also available.
Results *M. genitalium* prevalence was 3%, *C.trachomatis* 5% and only 0.5% of women were co-infected. *M.genitalium* was more prevalent in swab than urine samples (4.6% *vs.* 1.4%, p < 0.001) with a significantly higher mean bacterial load. Among NCSP participants *M.genitalium* was associated with ethnicity (black 4.7% vs. white 2%, p = 0.01) and *C.trachomatis* with age (16–19 years 8.5% vs. 20–24 years 5.7%, p < 0.01). *M.genitalium* and *C.trachomatis* were detected more frequently in women reporting multiple sexual partners in the previous year compared to women who reported only one partner (OR 2.2, p = 0.02 and OR 1.8, p < 0.01, respectively). Among STI clinic attendees *M.genitalium* was associated with younger age (16–19 years 9.9%, 20–24 years 6.2% *vs*. > 25 years 1.7%, p = < 0.01). Chlamydia prevalence was 6% in STI clinic attendees aged 16–24. Women previously diagnosed with chlamydia or *Trichomonas vaginalis* were significantly more likely to have *M.genitalium* compared to women with no previous STI diagnoses (OR 2.4, p = 0.02 and OR 5.7, p < 0.01, respectively).
Conclusion *M. genitalium* and *C. trachomatis* seldom co-exist and appear to have different risk factors. Further data on *M.genitalium* are necessary to determine the need for routine testing and treatment.