

Methods Women aged 16 to 25 years were recruited from sexual health clinics (SHC) and general practice clinics (GP) in South-Eastern Australia and provided with kits containing vaginal swabs and microscope slides to self-collect vaginal smears at 0, 6 and 12 months; 6- and 12-month samples were returned via post. Vaginal smears were scored using the Nugent method. BV prevalence was measured at time of recruitment and adjusted ORs (AOR) calculated to explore associations; BV incidence was measured over the study period and adjusted HRs (AHR) calculated to explore predictors of infection. Incident BV was diagnosed if a participant at baseline had a Nugent score <7 followed by a subsequent Nugent score of 7–10 at 6 or 12 months. Women diagnosed with BV at recruitment were excluded from the incidence analysis.

Results Overall, 1116 women were recruited from 29 clinics; slides were available for 1112 (99%) women at the baseline and 875 women (79%) at study completion. The prevalence of BV at recruitment was 11.8% (95% CI 9.9 to 13.7). Prevalent BV was associated with increased numbers of recent male sexual partners (AOR=2.2; 95% CI 1.0 to 4.6), a recent female sexual partner (AOR=3.2; 95% CI 1.6 to 6.5), being recruited from SHC (AOR=1.7; 95% CI 1.1 to 2.5) and having a lower level of education (AOR=0.5; 95% CI 0.3 to 0.7). There were 88 cases of incident BV yielding an incidence of 8.8 per 100 women years (95% CI 7.1 to 10.8). Incident BV was associated with increased numbers of new sexual partners (AHR=1.7; 95% CI 1.1 to 2.5). Both prevalent and incident infections were associated with increased numbers of self-reported symptoms, in particular “abnormal vaginal discharge” and “abnormal vaginal odour”.

Conclusion These are Australia’s first community-based BV prevalence and incidence estimates and show that BV is very common among young women and frequently associated with increased sexual activity.

P1-S1.29 **USE OF MOLECULAR SEQUENCING TO COMPARE THE VAGINAL MICROBIOTA OF HEALTHY WOMEN AND WOMEN WITH BACTERIAL VAGINOSIS IN INDIA**

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Background Lactobacillus species is an integral part of vaginal microbiota that maintains a healthy environment and plays an important role in preventing STI and HIV. We examined 20 women to investigate the difference in the diversity of Lactobacillus species present when the women are healthy or have Bacterial Vaginosis (BV).

Method Between February and November 2010, samples from a total of 20 women attending Prerana Women’s Health Clinic were collected. Out of 20, 10 women were considered healthy and 10 women were diagnosed with BV based on Amsel’s Criteria. In addition, Gram stained smears of vaginal fluid were Nugent scored as negative, intermediate, or positive for BV. Based on the Nugent score criteria, nine were Positive, nine were negative and two showed “Intermediate” Nugent Score. Vaginal swabs were taken from the women with informed consent after ethical approval and grown in MRS broth. Gram positive Lactobacilli generating about 600–800 bp amplicon by 16SrDNA PCR were further characterised by sequencing.

Result *Lactobacillus crispatus* (40%) and *Lactobacillus jensenii* (40%) were the most common Lactobacillus species found in the vaginas of

healthy women, the same Lactobacillus species found in healthy women in other countries. *L. crispatus* was cultured from 40% of healthy women and none of women with BV. *L. jensenii*, *L. gasseri*, and *L. acidophilus* were cultured from 40%, 10% and 10% of healthy women respectively; and none of the women with BV. *Lactobacillus iners* was not detected among healthy women or women with BV in our sample. Other organisms found among women were *Staphylococcus epidermidis* (60% among women with BV and 30% among healthy women), *Streptococcus anginosus* (40% among women with BV and 20% among healthy women). Some *Corynebacterium* spp were common among both women with BV and healthy women. Among the two women with “Intermediate” nugent score, one did not show growth of any Lactobacillus and in the other case there was growth of *Lactobacillus salivarius*.

Conclusion Our findings showed Lactobacilli species present in healthy vagina of women in India do not differ from those reported from other countries. This information is useful for the development of microbicides for HIV prevention as well as better understanding of the reproductive health of women in India.

Epidemiology poster session 1: STI trends: Chlamydia trachomatis

P1-S1.30 **CHLAMYDIA TRACHOMATIS PREVALENCE AND DETECTION IN MEN ATTENDING THE UROLOGIST’S OFFICE TO GET TESTED FOR SEXUALLY TRANSMITTED INFECTIONS IN ST PETERSBURG**

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Objectives The data about the prevalence sexually transmitted infection (STI) as *Chlamydia trachomatis* (CT) among the Russian population is limited and controversial. This information is of great scientific and health care interest. The aim of the study was to evaluate the prevalence of genital CT infection among male attendees of the urologist’s office in STI clinics in St. Petersburg and the role of molecular tests in low-resource settings.

Methods The prospective, multicenter study was undertaken throughout urologist’s offices in St. Petersburg during the January 2007–December 2009 timeframe. Urethral samples from 907 men (mean age 31.7 years), who were seeking to be routinely tested for STIs and with no HIV, gonorrhoea, syphilis and *Trichomonas vaginalis* detected in the time of study, were collected to be tested for CT infection by culture and in-house RT-PCR assays in St. Petersburg and to be confirmed in Amsterdam.

Results The results are presented in the Abstract P1-S1.30 table 1. In total CT infection was found in 6.4% of men tested by RT-PCR. Urethral specimens were tested by culture and RT-PCR assays for CT finding positivity rates of 2.2% (n=466 culture samples) and 7.6% (n=804 RT-PCR samples). Use of only culture test would result in missing up to 60% of CT+ cases (p<0.0001). Symptoms were presented in 48% of CT+ men. CT was less often detected in men reporting previous CT infection, as compared with first CT infection—4.3% vs 7.4% (p=0.0475). Only 14/907 (1.5%) questioned men openly reported being MSM but CT prevalence in this small group was 28.6% (p<0.0001). CT positivity assessed in St. Petersburg by culture and in-house RT-PCR tests was confirmed in Amsterdam by a molecular CE marked CT test.

Abstract P1-S1.30 Table 1 *Chlamydia trachomatis* prevalence, detected by culture and RT-PCR tests, among male attendees of the urologist's office in St. Petersburg

No men tested	<i>Chlamydia trachomatis</i> (CT) detection			
	CT–	CT+	CT prevalence	
In total	907	849	58	6.4%
Culture test, only	466	456	10	2.2%
RT-PCR test, only	804	747	57	7.6%
Culture and RT-PCR, both	376	351	25	6.7%

Conclusions Our study showed that—(1) CT prevalence among the Russian population is still high especially in MSM. (2) Risk factor include—being symptomatic at the time of testing ($p=0.0043$), inconsistent condom use and practicing sex with men (both— $p<0.0001$). (3) All samples found culture and/or RT-PCR CT+ in Russia were confirmed CT+ using molecular biological techniques in Amsterdam, showing the validity of CT detection in this study in St. Petersburg. At the moment we additionally—A) extent.

P1-S1.31 CHLAMYDIA TRACHOMATIS IN NORWAY, 1988–2009

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Background *Chlamydia trachomatis* is the most commonly reported STI in Europe. We present the epidemiology of *C trachomatis* in Norway from 1988 to 2009.

Methods Until 2004 the Norwegian Surveillance system of infectious diseases (MSIS) captured the total number of diagnosed cases and tests performed from all diagnosing laboratories. From 2005 date of diagnosis, birth year, sex and municipality of living has been included for each diagnosed case. We calculated testing rates, incidence rates (IR) and incidence rate ratios (IRR) with 95% CIs.

Results The IR of diagnosed cases was at its lowest in 1995 (287/100 000) and increased yearly until 2008 (467/100 000). The testing rate reached a peak in 1991 (8000/100 000), decreased towards year 2000 (5300/100 000) and has been stable until 2009 (5500/100 000). The proportion positive tests has increased yearly from 4.1 % in 1993 to 8.6 % in 2009. The highest mean annual IR was found in the age group 20–24 years for both men (2983/100 000) and women (4818/100 000). Women were 1.6 times more likely (IRR of 1.6, 95% CI 1.6 to 1.62) to be diagnosed with *C trachomatis* compared to men, and inhabitants in the two most northern regions were more likely to be diagnosed than the rest of the country (IRR 1.6, 95% CI 1.5 to 1.7).

Conclusion The IR of *C trachomatis* in Norway is increasing while the testing rate is stable. More detailed data of the case mix among the tested subjects is needed to interpret the observed trends.

P1-S1.32 UROGENITAL CHLAMYDIA TRACHOMATIS IS A HYPERENDEMIC DISEASE IN PARAMARIBO SURINAME. RESULTS FROM A MULTIETHNIC SOCIETY

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Background Suriname is a multicultural society with many ethnic groups, such as Creoles and Maroons (both descendants from the

African diaspora due to slave trade), Indian, Javanese, and Chinese (all descendants from labour immigrants), Caucasians (descendants from Dutch farmers) indigenous Amerindian people and Mixed race persons. The prevalence of *Chlamydia trachomatis* (Ct) among Surinamese living in the Netherlands visiting the Amsterdam STI clinic is high, up to 17%. However, due to lack of testing facilities the prevalence of Ct in Suriname is unknown. We aimed to estimate the prevalence and risk factors for Ct in two outpatient clinics in Paramaribo, Suriname, S.A.

Methods Between March 2008 and February 2010 436 men and 292 women were included in a high risk STI clinic and 829 women were included in a low risk birth control outpatient clinic in Paramaribo, Suriname. Male urine samples and nurse collected vaginal swabs were obtained for nucleic acid amplification test (NAAT) (APTIMA Combo 2, Gen-Probe, San Diego, USA) testing in Amsterdam. Logistic regression analysis was used to identify risk factors for Ct infection.

Results Ct prevalence was 23% for men and 20% for women at the high risk STI clinic and 10% for women at the low risk birth control clinic. The distribution of individuals included from each ethnic group is representative for the ethnic composition of the Surinamese population. One of the more striking outcomes was that a high Ct prevalence was found among Creoles (20%), Mixed race (17%) and Javanese (16%) individuals. Adjusted for age and test site, the Ct prevalence was significantly higher among Creole and Javanese individuals compared to Indian, OR 2.0 (95% CI 1.2 to 3.3) and 2.1 (95% CI 1.2 to 3.8) respectively (Abstract P1-S1.32 table 1). Young age (≤ 24 years) was significantly associated with Ct infection OR 3.1 (95% CI 2.1 to 4.7). Educational level was not associated with Ct infection.

Abstract P1-S1.32 Table 1 Univariate and multivariate logistic regression analyses of factors associated with Ct infection

	NAAT positive (%)	Univariate OR (95% CI)	Multivariate adjusted OR (95% CI)*
Gender			
Male	100/436 (22.9)	2.1 (1.6 to 2.8)	–
Female	138/1120 (12.3)	1	–
Test site			
STI clinic (high-risk)	157/728 (21.6)	2.5 (1.9 to 3.4)	2.4 (1.8 to 3.4)
Birth c. clinic (low-risk)	81/828 (9.8)	1	1
Age (years)			
≤ 24	104/438 (23.7)	3.5 (2.3 to 5.2)	3.1 (2.1 to 4.7)
25–34	96/664 (14.5)	1.9 (1.3 to 2.8)	1.9 (1.2 to 2.8)
≥ 35	37/453 (8.2)	1	1
Ethnic group			
Indian	23/291 (7.9)	1	1
Creole	93/459 (20.3)	3.0 (1.8 to 4.8)	2.0 (1.2 to 3.3)
Javanese	28/180 (15.6)	2.1 (1.2 to 3.9)	2.1 (1.2 to 3.8)
Maroon	35/261 (13.4)	1.8 (1.0 to 3.1)	1.1 (0.6 to 1.9)
Mixed race	50/292 (17.1)	2.4 (1.4 to 4.1)	1.5 (0.9 to 2.6)
Indigenous Amerindian	3/25 (12.0)	1.6 (0.4 to 5.7)	1.0 (0.3 to 3.8)
Chinese	0/14 (0)	0	0
Caucasian	4/19 (21.1)	3.1 (0.9 to 10.1)	1.7 (0.5 to 5.6)

*ORs in the multivariate model are adjusted for all factors for which adjusted ORs are shown.

Conclusion This is the first report on Ct epidemiology in Suriname. With a prevalence of 10% in the low risk birth control clinic population and 23% in the high risk STI clinic, the situation is alarmingly high and testing facilities are urgently needed to minimise further spread and disease burden of Ct. Moreover, the Ct prevalence is not equally distributed among the various ethnic groups. Especially the Creole and Javanese Surinamese populations are disproportionately affected.