Table 1. Compared to overall rates, females had significantly higher rates for each STI (GC/CT, \( p < 0.001 \); HSV-2, \( p = 0.027 \); TV, \( p = 0.015 \)); this was not the case for males.

### Conclusions

This community-based screening study demonstrates an extremely high STI burden among youth in the Eastern Cape Province of South Africa.

**O1-S04.06 PELVIC INFLAMMATORY DISEASE OCCURRING BETWEEN THE TIME OF TESTING AND TREATMENT FOR GONORRHOEA AND CHLAMYDIA**

doi:10.1136/sextrans-2011-050109.24

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**Background**

We conducted a prospective study to confirm our impression that incarcerated adolescents sometimes developed pelvic inflammatory disease (PID) during the brief interval between testing and treatment for gonorrhoeal and chlamydial cervicitis.

**Methods**

We performed the study at the Harris County Juvenile Detention Center, Texas, where PID in females is relatively common and where the prevalence of gonorrhoea and chlamydial infections is high. At the time of their mandated medical assessment, all incarcerated adolescents submitted first-catch urine samples for chlamydia and gonorrhoea testing. We used Gen-Probe NAAT assays. If at the time of testing a patient had symptoms suggestive of PID, we performed a bimanual pelvic examination and treated those who met the criteria for PID. For the diagnosis of PID, we used the criteria of the US Centers for Disease Control and Prevention: the presence of adnexal or cervical motion or uterine tenderness. The pelvic examinations were performed by one of three experienced physicians. For the patients who did not have PID at the time of testing, we re-assessed them when we learnt that their urine test was positive. The tests were run in batches by the city health department, so that a variable length of time elapsed between the day of testing and the day that we received test results. At re-assessment, patients received a PID diagnosis if they had lower abdominal pain and met the PID diagnostic criteria on bimanual pelvic examination.

**Results**

We evaluated 99 subjects between 29 March 2010 and 27 December 2010. Their mean age was 15.8 (SD 1.1) years. Their race/ethnicity was 43% black, 32% Hispanic, and 25% white; 74% had gonorrhoea, 14% gonorrhoea, and 12% both. The interval between testing and treatment ranged from 2 to 17 days; the mean (SD) was 7.5 (2.9) days. During this interval, 13 of 99 (15%) developed lower abdominal pain and had bimanual pelvic examination findings that supported the diagnosis of PID. Of these 13, 10 (77%) had chlamydia, 2 (15%) had gonorrhoea, and 1 (8%) had both infections. Time from initial urine testing to treatment for PID ranged from 7 to 15 days.

**Conclusion**

In incarcerated adolescents infected with gonorrhoea and/or chlamydia, a surprisingly large proportion (15%) developed PID during the brief period between testing and treatment.

**Epidemiology oral session 5: Vaginal infections**

**O1-S05.01 THE EPIDEMIOLOGICAL ASSOCIATIONS OF BV CANDIDATE BACTERIA IN SEXUALLY EXPERIENCED AND INEXPERIENCED WOMEN WITH BV AND NORMAL VAGINAL FLORA**

doi:10.1136/sextrans-2011-050109.25

C Bradshaw, FK Fethers, FW Fowkes, JT Twin, CF Fairley, SG Garland, GF Fehler, AM Morton, JH Hocking, S Tabrizi. Melbourne Sexual Health Centre, Melbourne, Australia; University of Melbourne, Australia; Royal Women’s Hospital, Australia

**Background**

Several bacterial candidate organisms (COs) have recently been shown to be highly specific for BV. The epidemiological profiles for these COs are unknown and no studies have examined COs in young sexually-inexperienced women, whether these COs are sexually-transmitted, or how they relate to specific sexual activities.

**Methods**

This study incorporates two study populations: The Female University Student Study which recruited women aged 17–21 years attending the University of Melbourne, and a sexually-experienced clinic population from Melbourne Sexual Health Centre. Participants completed a questionnaire addressing demographics and detailed sexual practices. Gram-stained vaginal smears...
Abstract O1-S05.01 Table 1 Associations between prevalence of BV candidate organisms and lifetime sexual partners

<table>
<thead>
<tr>
<th>Candidate organism</th>
<th>Megaspheara spp. detected (prevalence %)</th>
<th>Sneathia spp. prevalence detected (prevalence %)</th>
<th>Leptotrichia spp. prevalence detected (prevalence %)</th>
<th>L crispatus prevalence detected (prevalence %)</th>
<th>G vaginalis prevalence detected (prevalence %)</th>
<th>BVAB1 prevalence detected (prevalence %)</th>
<th>BVAB2 prevalence detected (prevalence %)</th>
<th>BVAB3 prevalence detected (prevalence %)</th>
<th>A vaginae prevalence detected (prevalence %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1/3 (33)</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
</tr>
<tr>
<td>1-10</td>
<td>1/92 (1)</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
</tr>
<tr>
<td>&gt;10</td>
<td>6/72 (8)</td>
<td>0/79</td>
<td>0/79</td>
<td>0/79</td>
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<td>0/79</td>
<td>0/79</td>
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<td>0/79</td>
</tr>
<tr>
<td>p for trend</td>
<td>0.03</td>
<td>0.006</td>
<td>0.001</td>
<td>&lt;0.001</td>
<td>Undefined</td>
<td>0.2</td>
<td>0.2</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Women with BV</td>
<td>Lifetime sexual partners</td>
<td>0</td>
<td>1/3 (33)</td>
<td>1/3 (33)</td>
<td>1/3 (33)</td>
<td>1/3 (33)</td>
<td>3/3 (100)</td>
<td>0/3 (0)</td>
<td>0/3 (0)</td>
</tr>
<tr>
<td>1-10</td>
<td>12/33 (36)</td>
<td>3/3 (33)</td>
<td>3/3 (33)</td>
<td>3/3 (33)</td>
<td>18/33 (55)</td>
<td>4/33 (12)</td>
<td>33/33 (100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;10</td>
<td>12/69 (17)</td>
<td>60/69 (87)</td>
<td>58/69 (88)</td>
<td>35/69 (51)</td>
<td>69/69 (100)</td>
<td>6/69 (9)</td>
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<td>13/69 (19)</td>
<td>67/67 (100)</td>
</tr>
<tr>
<td>p for trend</td>
<td>0.07</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
<td>0.004</td>
<td>0.3</td>
<td>0.04</td>
</tr>
</tbody>
</table>

were scored by the Nugent method. Three-hundred-and-thirty-nine samples from women with normal flora and BV were selected for analysis using quantitative PCR assays (qPCR) targeting the specific 16S rRNA gene sequences of eight published COs (G vaginalis, A vaginae, Megaspheara spp., Sneathia spp., BVAB1, BVAB2, BVAB3, and Leptotrichia spp.) and L. crispatus. Detection of COs and L. crispatus and their total bacterial loads were compared between women with BV and normal flora. The associations between prevalence of COs and specific sexual behavioural practices were examined by univariate and multivariate analysis.

Results

Analysis found all COs were strongly associated with BV compared with normal flora and L. crispatus was negatively associated. G vaginalis and A vaginae were relatively common in sexually inexperienced women: however other COs were absent in a truly virginal population. When women with normal flora and BV were analysed separately, Sneathia spp., BVAB1, BVAB2, BVAB3, and Leptotrichia spp. and G vaginalis all demonstrated a progressive increase in prevalence with increasing sexual experience and increasing numbers of vaginal sexual partners see Abstract O1-S05.01 table 1. Megaspheara spp. however differed from other COs, with a higher prevalence being strongly associated with increasing oral sex frequency and oral sex partner number.

Conclusions

The data provide compelling evidence for sexual transmission of several COs—with absence of COs in virginal women and increasing prevalence with increasing sexual exposure. Interestingly the COs Sneathia spp., BVAB1, BVAB2, BVAB3, Leptotrichia spp. and G vaginalis are significantly associated with vaginal sex while the epidemiological association of Megaspheara spp. differed from the other COs being significantly associated with oral sex.

O1-S05.07 BIOLOGICAL EVIDENCE OF SEMEN EXPOSURE IS ASSOCIATED WITH INCIDENT BACTERIAL VAGINOSIS

doi:10.1136/sextrans-2011-050109.26

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Objectives

(1) To identify correlates of incident Bacterial vaginosis (BV) among high-risk women and (2) to identify predictors of discordance between self-reported lack of semen exposure in the past 6 months and the detection of spermatozoa on Gram stain, which provides biological evidence of recent exposure.

Methods

Analyses were based on among 971 HIV-infected and 439 HIV-uninfected women participating in HIV Epidemiology Research Study (HERS) which was conducted in 4 sites in the US Participants completed study visits conducted at baseline and at 6-month intervals thereafter. We conducted both cohort and case-crossover analyses, stratified by HIV infection status, to evaluate potential correlates of incident BV. We also used logistic regression to identify predictors of discordance between self-reported lack of exposure to semen and the detection of spermatozoa on Gram stain.

Results

BV incidence was 21% among HIV-infected women and 19% among HIV-uninfected women. We found fewer correlates of incident BV when assessed with a case-crossover design than with a cohort design. Reporting frequent coitus (regardless of consistency of condom use) was correlated with incident BV in the cohort analyses but not in the case-crossover analyses. The sole correlate that emerged in both the cohort and case-crossover analyses among HIV-infected and -uninfected women was the detection of spermatozoa on Gram stain. Seven factors were associated with discordance between self-reported semen exposure and spermatozoa detection in the multivariable analysis. Discordance differed by study site and race/ethnicity and was more common among younger women. The following infections or conditions also were predictive of discordance: HIV (adjusted OR [aOR], 2.8; 95% CI, 1.7% to 4.6%), BV (aOR, 1.9; 95% CI, 1.5% to 2.5%), and human papillomavirus (aOR, 1.3; 95% CI, 1.0% to 1.8%). Finally, reporting current injection drug use (aOR, 0.6; 95% CI, 0.4% to 0.9%) was inversely related to discordance.

Conclusions

The inconsistent association between condom use and BV found in prior studies could be the result of participant reporting bias. The present study found evidence of a relationship between semen exposure and incident BV. Also, given the number and range of correlates of discordance between self-reported and biological evidence of semen exposure, inaccuracies in the reporting of sexual behaviours cannot be assumed to be distributed randomly across a study population.

O1-S05.08 BEHAVIOURAL FACTORS ASSOCIATED WITH BACTERIAL VAGINOSIS (BV) IN WOMEN WHO HAVE SEX WITH WOMEN (WSW): THE WOMEN ON WOMEN’S (WOW) HEALTH STUDY

doi:10.1136/sextrans-2011-050109.27

1 C Bradshaw, 2 J Bilardi, 3 S Walker, 4 L Vodstrcil, 3 S Garland, 2 J Hocking, 4 M Chen, 4 S Peterson, 4 G Fehler, 4 C Fairley. 1 Melbourne Sexual Health Centre, University of Melbourne, Melbourne, Australia; 2 University of Melbourne, Melbourne, Australia; 3 Royal Women’s Hospital, Australia; 4 Melbourne sexual health centre, Australia

Background

We are conducting a national 2 year cohort study in 400 Australian WSW to determine the behavioural and microbiological
The epidemiological associations of BV candidate bacteria in sexually experienced and inexperienced women with BV and normal vaginal flora

C Bradshaw, K Fethers, F Fowkes, J Twin, C Fairley, S Garland, G Fehler, A Morton, J Hocking and S Tabrizi

*Sex Transm Infect* 2011 87: A31-A32
doi: 10.1136/sextrans-2011-050109.25

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