

around the world. In women, HPV is strongly related to cervical, vaginal, vulvar, and anal cancers, and is also considered the agent responsible for precursor lesions.

**Methods** An observational, comparative study was conducted at the Clinic of Lower Genital Tract Diseases and Colposcopy, between January 2011 and January 2012. We included 75 patients who had genital lesions induced by HPV, already submitted to the respective treatments: 29 women with genital warts and 46 with cervical intraepithelial neoplasia with high histological grade (CIN 2/3). The patient's medical records were evaluated regarding the type of HPV infection-induced, as well as therapy. Patients included were initially asked about the epidemiological data, medical history, gynaecological, obstetric and sexual behaviours. Also, the impact of socioeconomic and sex-related disease and its treatment was recorded. After this initial interview, the SF-36v2 and Quotient sex - female version (QS-F) was applied. Both women with genital warts as those with CIN 2/3 showed a reduction in their quality of life.

**Results** The results after evaluation of the SF-36 showed that patients with CIN 2/3 have the same score in the physical domain ( $p=0.246$ ), pain ( $p=0.677$ ), general health ( $p=0.109$ ) and physical component ( $p=0.087$ ) compared to patients with genital warts. However, patients with warts have statistically lower scores compared to patients with CIN 2/3 regarding the mental component ( $p=0.003$ ), physical functioning ( $p<0.001$ ), vitality ( $p=0.003$ ), Social ( $p=0.027$ ), emotional ( $p=0.031$ ), mental health ( $p<0.001$ ) domains.

**Conclusion** In relation to the sexual aspect it is important to say that patients with CIN 2/3 have statistically the same classification of sex ratio when compared to patients with genital warts ( $p=0.115$ ). However, when performing specific questions about sexual parameters, warts caused a greater impact on sexual life of patients.

### P3.166 HIGH CHLAMYDIA AND BACTERIAL VAGINOSIS BURDEN IN HIV EPICENTRE IN SOUTH AFRICA

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**Introduction** As long as syndromic management of sexually transmitted infections (STI) remains the main model of care in low and middle income countries, diagnostic surveillance is essential for STI control, especially in high HIV incidence settings. Here, we present the baseline data from the CAPRISA 083 cohort study that was conducted in a large urban primary health care clinic in KwaZulu-Natal, South Africa.

**Methods** Women aged 18–40 presenting for syndromic STI care at the facility were assessed for participation. HIV positive women (prevalence 39.1%), pregnant women (9.1%) or those engaging in sex work were excluded due to pre-determined eligibility criteria. Women consenting to the study completed a sexual risk questionnaire, were examined by a nurse, and underwent point-of-care testing for chlamydia and gonorrhoea (Xpert CT/NG), trichomonas (OSOM rapid test), and microscopy to assess for bacterial vaginosis (BV) and candida.

Gonorrhoea cases were further investigated for antibiotic resistance.

**Results** A total of 267 women, median age 23 (IQR 21–27), were enrolled and 88.4% reported to be symptomatic. All were sexually active and 75.7% stated that they used condoms with their partners, although only 3.7% used them consistently. 125 (46.8%) had abnormal pelvic examinations, including 106 (39.7%) women with vaginal discharge. STI testing revealed an 18.5% prevalence of chlamydia (20.5% in <25 year-olds), 5.2% gonorrhoea and 2.6% trichomonas. Two thirds of women (69.3%) had evidence of abnormal vaginal flora (33.7% BV and 35.6% intermediate flora) based on Nugent Score, and 17.6% were diagnosed with candida infection. A total of 52/267 (19.5%) reported symptoms, but had no STI or abnormal flora found. Of 9 specimen cultured for gonorrhoea resistance, 7 (77.7%) were resistant to penicillin and 4 (44.4%) to ciprofloxacin, but no cephalosporin resistance was identified.

**Conclusion** In this high HIV incidence setting, the burden of chlamydia infection and abnormal vaginal flora was concerning high, warranting enhanced STI management strategies at population level.

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### P3.167 CHLAMYDIA TRACHOMATIS INCIDENCE AND SCREENING RATES IN FEMALE UNITED STATES ARMY SOLDIERS UNDER 25 YEARS, 2011–2015

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**Introduction** *Chlamydia trachomatis* (Ct) genital infection is the most commonly reported bacterial infection in the United States (US). High-risk groups include women <25 years. Untreated infections may lead to pelvic inflammatory disease and infertility. Most infections are asymptomatic, so screening high-risk women is important. The US National Commission on Prevention Priorities ranked annual Ct screening of sexually active women as one of the top 10 prevention strategies. The Army screens women <25 yearly, and Ct is reportable. Ct incidence dropped from 2011 ((109/1000 person-years (py)) to 2012 (86/1000 py). A search for artifactual contributions found the proportion of specimens submitted that tested positive remained stable, but screening rates dropped. Subsequently, screening rates improved. During 2012–2014, the reported Ct annual incidence stabilised, averaging 86/1000 py. However, Ct incidence for 2015 increased to 92/1000 py, prompting another review of the relationship between reported Ct incidence and screening rates.

**Methods** Incidence rates were compiled from Ct reports in non-deployed Soldiers submitted to the military Disease Reporting System-internet. Screening rates were obtained from the Military Health System Population Health Portal. To deal with variations in screening, modelled incidence projections were developed to reflect a theoretical 100% screening compliance.

**Results** Incidence projections confirmed a decrease in the 2011–2014 modelled incidence/1000 py: 2011–129,

2012–121, 2013–114 and 2014–109. The modelled Ct incidence for 2015 increased to 114/1000 py. The screening rate fell from a high of 85% in 2011 to a low of 71% in 2012, with subsequent improvement to 81% in 2015.

**Conclusion** Reported Ct incidence in Army women is related to the actual infection rate and the percentage of at-risk women screened. Ct surveillance programs must review medical report and screening data to improve burden estimates. Incidence projections help assess the magnitude of observed surveillance changes and identify the probable number of missed infections.

**P3.168 EVALUATION OF THE POINT-OF-CARE XPRT® CT/NG AND OSOM® TRICHOMONAS RAPID TESTS AGAINST THE ANYPLEX™II STI-7 DETECTION ASSAY**

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**Introduction** Syndromic management of sexually transmitted infections (STIs), as practised in most poorly resourced countries misses out asymptomatic infections. Affordable nucleic acid amplification tests (NAATs) are needed for accurate STI diagnosis and treatment.

**Methods** As part of a cohort study assessing a diagnostic STI care model among young South African women presenting for syndromic care, we evaluated the clinic-based point-of-care (POC) tests Xpert CT/NG and OSOM Trichomonas Rapid Test against the laboratory-based Anyplex II STI-7, a multiplex real-time PCR assay which detects *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Trichomonas vaginalis* (TV), *M. genitalium* (MG), *M. hominis* (MH), *U. urealyticum* (UU) and *U. parvum* (UP) in a single reaction. All positive and discordant results were confirmed with a third molecular assay, the FTD STD9.

**Results** Vaginal swabs taken from 247 women were assessed in parallel. 238 of 247 (96.4%) results were in agreement comparing Xpert and Anyplex. All nine discrepant results were positive for CT on Xpert but negative on Anyplex. FTD STD9 confirmed three positive and six negative results. The sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of Xpert for CT against the two assays was 100%, 97.1%, 86.0%, 100%, respectively; and for NG 100%, 99.6%, 92.3%, 100%. The sensitivity, specificity, PPV and NPV of OSOM for TV against the two assays was 77.8%, 100%, 100%, 99.2%. In addition to the CT, NG and TV detection, the Anyplex identified a prevalence of 4.8% MG, 33.5% MH, 19.1% UU and 51.4% UP in this population.

**Conclusion** The overall performance of Xpert CT/NG against laboratory-based assays was comparable. A lower PPV may lead to some overtreatment, however, in a high burden STI and HIV region, where STIs are often asymptomatic, the high sensitivity and specificity are reassuring. The widened spectrum of Anyplex targets highlights the high burden of *Ureaplasma* and *Mycoplasma* species in this setting, whose clinical significance need further exploration.

**P3.169 HUMAN LEUKOCYTE ANTIGEN (HLA) B\*18 AND PROTECTION AGAINST MOTHER- TO-CHILD HIV TYPE1 TRANSMISSION**

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**Introduction** Human leukocyte antigen (HLA) molecules regulate the cellular immune system and may be determinants of infant susceptibility to human immunodeficiency virus type 1 (HIV-1) infection. Molecular HLA typing for class I alleles was performed on infants followed in a Kenyan perinatal cohort.

**Methods** Early HIV-1 infection status was defined as infection occurring at birth or month 1, while late infection via breast milk was defined as first detection of HIV-1 after 1 month of age. Likelihood ratio tests based on a proportional hazards model adjusting for maternal CD4 T cell count and HIV-1 viral load at 32 weeks of gestation were used to test associations between infant allelic variation and incident HIV-1 infection. Among 433 infants, 76 (18%) were HIV-1 infected during 12 months of follow-up.

**Results** HLA B\*18 was associated with a significantly lower risk of early HIV-1 transmission [relative risk (RR)=0.26; 95% confidence interval (CI) 0.04–0.82], and none of the 24 breastfeeding infants expressing HLA B\*18 who were uninfected at month 1 acquired HIV-1 late via breast milk. We observed a trend toward increased early HIV-1 acquisition for infants presenting HLA A\*29 (RR=2.0; 95% CI 1.0–3.8) and increased late HIV-1 acquisition via breast milk for both Cw\*07 and Cw\*08 (RR=4.0; 95% CI 1.0–17.8 and RR=7.2; 95% CI 1.2–37.3, respectively).

**Conclusion** HLA B\*18 may protect breast-feeding infants against both early and late HIV-1 acquisition, a finding that could have implications for the design and monitoring of HIV-1 vaccines targeting cellular immune responses against HIV-1.

**P3.170 WOMEN, HARM REDUCTION AND HIV**

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**Introduction** This paper compares and contrasts number of partners and condom use behaviour for female sex workers and a sample of women working in other economic activities, with both samples drawn from the large informal settlement of Kibera, Nairobi.

**Methods** As expected, univariate analysis revealed much higher numbers of overall sexual partners and higher levels of condom use among female sex workers compared to Kibera women in other occupations. An unexpected finding, however, was that female sex workers with a romantic partner had significantly fewer sexual partners per unit time than female sex workers without such a partner.

**Results** This finding held for multivariate analysis, with negative binomial regression analyses showing that having a romantic partner was significantly associated with reductions