

**P3.68** **DISPARITY AMONG ETHNIC RACE GROUPS IN SEXUAL TRANSMITTED INFECTION FOR LIFESTYLE VARIABLES OF MALE AND FEMALE ACTIVE DUTY MILITARY PERSONNEL**

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**Introduction** Despite the evolution in STI prevention strategies, US racial and ethnic minority populations continue to share a disproportionate burden of disease. Race and ethnicity are frequently correlated with other determinants of health status such as poverty, income inequality, unemployment, and educational attainment. However, differences among race groups in prevalence of STI for levels of lifestyle have not been evaluated for the US military, where these determinants of health may be less influential. We analysed data from the 2008 Survey of Health-Related Behaviours (SHRB) among US military personnel to determine racial differences in STI rates and associations with other lifestyle risks behaviours.

**Methods** Our analysis of the 2008 SHRB included data from 28,546 US military personnel. STIs were dichotomized as 'yes' or 'no' if self-report as 'ever' or 'in the last 12 months'. Demographic variables, regular exercise, tobacco use, alcohol use, other lifestyle variables were considered. Weighted binary logistic regression model, and Bonferroni adjustment for pairwise comparison were used.

**Results** Significant differences were found in proportions of reporting STI in African American (24%) Hispanic (12%) White (10%) and other (9%) racial groups within the military.

For males, higher significant STI prevalence rates were found in blacks versus any of other 3 race groups separately for each level of regular exercise, tobacco use and alcohol use respectively. However, similar results were not applicable to females.

**Conclusion** Despite universal access to healthcare, standardised income and required educational attainment, differences in STI rates by ethnicity were maintained among those in military service. In addition, STI risk in some racial groups was higher at all levels of other lifestyle risks suggesting that risk taking behaviour beyond STI risk is variable by ethnicity. Population health programs target to risk reduction should address ethnicity beyond the historical confounders of income, educational attainment, and educational attainment.

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**P3.69** **ADMINISTRATIVE MEDICAL ENCOUNTER DATA AND MEDICAL EVENT REPORTS FOR SYPHILIS SURVEILLANCE: A CAUTIONARY TALE**

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**Introduction** In response to increased syphilis rates in the U.S., the Department of Defense conducted a surveillance study of incident syphilis cases to determine the burden of syphilis in active duty service members. Syphilis diagnosis was derived from administrative medical encounter data (ICD-9) and reportable medical events (RME) during 2010–2015. The results demonstrated a considerable increase in primary and secondary syphilis, with only a minor elevation in latent disease. These results suggested either insufficient screening practices in the MHS or errors in diagnosis or coding of medical encounters. We performed a validation study to evaluate the sensitivity of administrative and RME data to identify incident syphilis cases and to estimate the burden of syphilis in the U. S. Army.

**Methods** An Army-specific 10% sample of 2976 incident syphilis cases identified in the parent military surveillance analysis was provided for validation. The electronic medical record was reviewed and data was systematically collected on clinical presentation, medical history, prior syphilis testing, and clinical assessment at each encounter, diagnosis, and treatment.

**Results** Of the 300 cases reviewed, 96 (32%) were identified as errors in medical coding or diagnosis and were not incident cases. Only 22% of cases were correctly staged as primary or secondary syphilis. Significant differences were found during validation in all areas of staging between the parent analysis and the validation study. Variability was seen in the HIV positive subpopulation and in those with previous diagnosis of syphilis.

**Conclusion** Although administrative health system data is readily available, it may lack specificity for syphilis diagnosis. Pitfalls in medical encounter coding, diagnostic uncertainty by providers, interpretation of labs, and overly sensitive inclusion criteria may misrepresent the magnitude of disease and classification of latent versus active clinical disease in the population. Caution should be used in tracking syphilis using administrative medical encounter data.

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**P3.70** **ACCEPTABILITY OF ANTENATAL SEXUALLY TRANSMITTED INFECTION SCREENING IN SOUTH AFRICAN HUMAN IMMUNODEFICIENCY VIRUS-INFECTED PREGNANT WOMEN**

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**Introduction** Mother-to-child transmission (MTCT) of the human immunodeficiency virus (HIV) continues to contribute to HIV incidence across the globe. Research suggests that co-infection with sexually transmitted infections (STIs) *Chlamydia trachomatis*, *Neisseria gonorrhoea*, and/or *Trichomonas vaginalis* may increase the risk of HIV MTCT. This study describes

the acceptability and preferences for STI screening among a sample of pregnant, HIV-infected women at two clinics near Pretoria, South Africa.

**Methods** We approached potentially eligible HIV-infected pregnant women at their first antenatal care visit to invite them to receive STI screening that was integrated into the appointment. Trained staff collected data on STI screening preferences. Following enrollment, women were requested to provide two self-collected vaginal swabs for STI testing (GeneXpert, Cepheid, Sunnyvale, CA, USA).

**Results** Of the 171 women eligible for enrollment, 168 (98.2%) agreed to participate in the STI study, including STI testing and self-collected vaginal swabs. Of the 167 complete responses, 15.6% (n=26) preferred a urine test for STI screening, 41.1% (n=69) vaginal swab, and 42.9% (n=72) had no preference. Of those who preferred the urine test, the most common reasons were “ease” of the test (n=20, 12.0%), followed by anticipation of the test being “less painful” (n=3, 1.8%), “less uncomfortable” (n=2, 1.2%), “less embarrassing” (n=1, 0.6%), and more familiar (n=1, 0.6%). However, when given directions on the vaginal swab collection procedures, all 168 (100%) women complied and received successful test results.

**Conclusion** Integration of an STI screening protocol, including self-administered vaginal swabs, into first antenatal care visits appeared to be highly acceptable in this setting among HIV-infected pregnant women. Despite variability in preferences, all women adequately and satisfactorily self-collected vaginal samples, allowing for the timely detection and treatment of infections that may have been otherwise missed.

### P3.71 CORRELATES OF HIV INFECTION AMONG KENYAN WOMEN SCREENED FOR A INTRA-VAGINAL CONTRACEPTIVE RING STUDY IN KISUMU KENYA, 2015

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**Introduction** Women in Sub-Saharan Africa continue to be disproportionately affected by the HIV epidemic. Correlates of HIV infection need to be better understood, and prevention strategies adapted, to account for risk patterns linked to particular settings or situations.

**Methods** We assessed prevalence and correlates of HIV infection among women 18–34 years of age screened for a contraceptive vaginal ring study. Women provided socio-demographic, medical information, and underwent real-time parallel rapid HIV testing and medical evaluation and sexually transmitted infections (STI) testing.

**Results** Of the 459 women screened, the median age was 25 (IQR: 21–28). Majority of whom were married (69%), and more than a half (69%) had primary or less level of education. Overall, HIV prevalence was 14.5%, with the married and widowed recording a significantly higher burden of HIV (25% and 50%) respectively. Slightly more than a half (55%) of HIV positive women perceived their health to be good. Women who tested positive for herpes simplex and gonorrhoea had significantly higher prevalence of HIV (6% vs. 21%,  $p < 0.001$  and 14% vs. 39%;  $p = 0.003$ ) respectively.

Women ages 25–29 years old had a 3 fold increased odds of HIV acquisition compared to 18–24 year olds (aOR=3.61; 95% CI:1.23–10.49,  $p = 0.019$ ), while those aged 30–34 had a 5 fold increased risk (aOR=5.36; 95% CI:1.23–19.60,  $p = 0.011$ ). Widowed had nearly 6 times risk of HIV acquisition compared to single women (aOR=5.85; 95% CI:1.39–24.51,  $p = 0.016$ ), whereas women reporting to have had sexual intercourse with partners of unknown HIV status in the last 3 months were four times more likely to test positive for HIV than those who did not (OR 4.10 95% CI: 1.47–11.41).

**Conclusion** Behavioural, biological and structural factors continue to put women at risk of HIV. There is need for multi-pronged prevention strategies including female controlled multipurpose technologies to reduce their HIV burden.

### P3.72 THE PREVALENCE OF ANAL HIGH-RISK HUMAN PAPILLOMAVIRUS INFECTIONS AND ASSOCIATED RISK FACTORS IN MEN-WHO-HAVE-SEX-WITH-MEN IN CAPE TOWN, SOUTH AFRICA

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**Introduction** We investigated the prevalence of high-risk (HR) human papillomavirus (HPV) infections and associated behavioural risk factors in men-who-have-sex-with-men (MSM) attending a clinical service in Cape Town, South Africa.

**Methods** MSM were enrolled at the Ivan Toms Centre for Men's Health in Cape Town. For each participant, a psychosocial and sexual behavioural risk questionnaire was completed and an anal swab was collected and tested for 13 HR-HPV types using the Linear Array HPV Genotyping Test. Logistic regression analyses were performed to determine sexual risk factors associated with anal HR-HPV infection.

**Results** The median age of the 200 participants was 32 years (IQR 26–39.5), of which 31.0% were black, 31.5% mixed race and 35.5% white. The majority of the participants (73.0%) had completed high school, 42.0% had a tertiary level qualification and 69.0% were employed. The prevalence of HR-HPV types was 57.6% [95% CI: 50.3%–64.7%] in anal samples, with HPV-16 being the most common HR-HPV type detected (22.0%). HPV types 16 and/or 18, the only HR-HPV types included in all available HPV vaccines, were detected in 55 (28.8%) [95% CI: 22.5%–35.8%] anal specimens. Furthermore, 95 (49.7%) [95% CI: 42.9%–57.1%] specimens had one or more HR-HPV types included in the 9-valent HPV vaccine. Among the 88 MSM (44.0%) that were HIV positive, 81.2% [95% CI: 71.2%–88.8%] had anal HR-