

## O18 - HIV and women's health

## O18.1 PREVALENCE AND FACTORS ASSOCIATED WITH MODERN CONTRACEPTIVE USE AMONG HIV- POSITIVE WOMEN AGED 15–49 YEARS IN KILIMANJARO REGION, NORTHERN TANZANIA

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**Background** Of 270,000 new HIV infections in children, 90% are in Sub-Saharan Africa. High fertility levels and high number of women infected with HIV results in high rates of Mother-to-Child-Transmission (MTCT) in SSA. To date, most efforts to prevent MTCT of HIV have focused on the third prong, a strategy that offers ARV drugs to HIV infected pregnant women and their exposed infants. However, the effective use of contraceptives to prevent unwanted pregnancies among HIV-positive women has the ability to reduce the rates of MTCT of HIV at a lower cost compared to the third prong. There is limited information on the levels of contraceptive use and associated factors among HIV positive women in Northern Tanzania.

**Methods** This was a cross-sectional study conducted in February–May 2014 in three randomly selected districts of Kilimanjaro region. Univariate and multivariate logistic regression analysis were used to describe data and determine independent predictors of modern contraceptives use respectively.

**Results** Of the 672 HIV-positive women participated in this study, 93% were aware of modern contraceptive methods, 54% were current modern contraceptives users and 21% were using dual contraceptive methods. Commonly modern contraceptives method used included male condom (41%), Depo-Provera (13%) and oral contraceptive pills (10%). Modern contraceptive use was significantly higher among HIV-positive women with; secondary education (aOR = 3.6, 95% CI 1.4–9.5), who do not plan to have more children (aOR = 2.2, 95% CI 1.5–3.2), counselled on contraceptives at CTC (aOR = 3.7, 95% CI 2.7–5.1), disclosed their HIV status to their partner (aOR = 2.5, 95% CI 1.8–3.4).

**Conclusions** Prevalence of modern contraceptive use was higher than the national level. 46% of HIV-positive women are not using any method of contraception despite being sexually active. Strategies are required to increase use of long-term contraceptive methods to those who do not want more children and strengthening counselling to target non-users.

## O18.2 INJECTABLE PROGESTIN CONTRACEPTION AND ACQUISITION OF HSV-2 INFECTION AMONG SOUTH AFRICAN WOMEN PARTICIPATING IN THE VOICE TRIAL

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**Introduction** Observational data suggest HIV-1 acquisition differs between users of two common injectable progestin-only contraceptives (IPC), depot medroxyprogesterone acetate (DMPA) and norethisterone enanthate (NET-EN). Data are limited on the

potential impact of both IPC types on herpes simplex virus type 2 (HSV-2) acquisition.

**Methods** We conducted a secondary analysis among IPC users enrolled at South African sites in VOICE, a multi-centre randomised trial of topical and oral HIV-1 chemoprophylaxis. Contraceptive use assessment was conducted monthly. HSV-2 was diagnosed by Focus HerpeSelect EIA at enrollment and repeat EIA at study exit in all participants (seroconversion cutoff value  $\geq 3.5$ ); quarterly EIA was available for a subset to assess seroconversion timing. Using Cox proportional hazards regression, we assessed the association between IPC type and HSV-2 acquisition with adjustment for potential confounders (age, marriage/cohabitation, education, condom use, number of partners, VOICE study arm).

**Results** Among 1776 IPC users who were HSV-2-seronegative at enrollment, 922 (51.9%) used DMPA, 716 (40.3%) used NET-EN, and 138 (7.8%) used both IPC types at different times during follow-up. Among the 1638 IPC users who did not switch IPC type during follow-up, 1506 (91.9%) had baseline and exit HSV-2 serology available. Over 1534.1 person-years (py) of follow-up, 178 incident HSV-2 cases occurred: 107 in DMPA users (crude incidence rate [IR] 11.3/100 py) and 71 in NET-EN users (crude IR 12.1/100 py). Among 640 participants with quarterly HSV-2 serology, 45 cases occurred among DMPA users over 350.4 py and 31 among NET-EN users over 231.1 py (HR = 0.97; 95% CI 0.61–1.53; aHR = 1.02; 95% CI 0.64–1.62).

**Conclusion** HSV-2 risk did not differ by DMPA versus NET-EN use. These results are consistent with our findings that DMPA users in VOICE did not have higher risk of genital tract infection (gonorrhoea, chlamydia or trichomoniasis) compared to NET-EN users, despite having higher risk for HIV-1 infection.

**Disclosure of interest statement** The authors report no conflicts of interest.

## O18.3 ADOLESCENTS IN SOUTH AFRICA AND ASSESSMENT OF HIV RISK: KNOWING WHO WE ARE TRYING TO PROTECT

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**Introduction** South African adolescent females are at high risk of HIV acquisition, disproportionate to their sexual behaviour. We hypothesised that biological changes associated with puberty may influence this susceptibility.

**Methods** This study was conducted in two South African sites, the Desmond Tutu Youth Centre, Masiphumele, Cape Town and the Perinatal HIV Research Centre, Soweto, Johannesburg. Cytokines were measured by Luminex. Sexual risk behaviour, contraceptive use and the prevalence of sexually transmitted infections (STIs) [*C. trachomatis* (CT), *N. gonorrhoeae* (NG), *T. vaginalis*,

*M. genitalium*, HSV-2, syphilis], bacterial vaginosis (BV) and candida were assessed in each women.

**Results** The prevalence of STIs or BV was 71% in Cape Town and 54% in Johannesburg, with 47% of Cape Town and 42% of Johannesburg women having BV. The CT prevalence in Cape Town [62/148 (42%)] was substantially higher than Johannesburg [26/149 (17%);  $p < 0.0001$ ]. CT was highest in 16–17 year old women and lowest in 20–22 year olds in both sites. Among the Cape Town CT isolates studied in detail ( $n = 40/62$ ), five distinct sequence types were seen. Despite these differences in STI/BV prevalence between cohorts, the women had largely similar behavioural risk profiles, including sexual orientation, age of sexual debut and lifetime number of sexual partners, though adolescents from Johannesburg were more likely to report previous known symptomatic STIs ( $p = 0.03$ ). BV was the most inflammatory condition, with upregulated concentrations of many of cytokines and growth factors observed in both sites. While CT was associated with more moderate cytokine up-regulation in Cape Town, high levels of inflammation were observed in CT positive women from Johannesburg.

**Conclusion** An alarmingly high STI and BV prevalence was found in these at risk populations, indicating a need for improved preventative strategies. In young women, BV caused a greater degree of inflammation than STIs and its effective management requires further investigation.

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#### 018.4 SEX DIFFERENCES IN HIV KNOWLEDGE, TESTING BEHAVIOURS, AND DECISION MAKING INFLUENCES IN RURAL MALAWI

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**Introduction** HIV remains the leading cause of death among Malawian adults. Nationally, 72% of women and 51% of men report having had an HIV test. In the Central Region, 9% of women and 6% of men are estimated to be HIV-infected. Making the decision to be tested and treated for HIV would be critical to implementation of the treatment-as-prevention approach to HIV control.

**Methods** Using a standardised instrument and electronic data capture, our research program, Umoyo wa Thanzi (UTHA, *Health for Life*), interviewed reproductive-age women ( $n = 1030$ ) and their male partners ( $n = 442$ ) living in rural Lilongwe District. We assessed relationships between decision-making factors and timing of the most recent HIV test.

**Results** Both HIV knowledge and HIV testing access were high, although women differed from men. The majority (73%) knew that people with HIV may appear well (women 70%, men 80%,  $p = 0.001$ ) and (88%) knew that condom use prevents HIV

transmission (women 86%, men 91%,  $p = 0.004$ ). Ninety per cent reported ever having tested for HIV, and recent testing was more common in women: 65% of women and 59% of men had been tested in the past year ( $p = 0.019$ ). Fewer women (74%) than men (89%) knew that their partner had tested ( $p < 0.001$ ), and fewer women (22%) than men (27%) reported concerns about testing confidentiality ( $p = 0.044$ ). Concerns about knowing HIV-status (overall 15%) or fearing partner's response (overall 14%) were uncommon. Decision-making factors—knowing about partner's testing, concerns about confidentiality or about knowing HIV-status, or fears of partner's response—were not associated with HIV test timing for women or men.

**Conclusion** Women had and men had differential HIV knowledge and decision-making influences in rural Malawi, though these did not predict differential testing behaviours. Planned work by our team includes comprehensive, community-based HIV testing; such testing will be accompanied by referrals for ART.

**Disclosure of interest statement** The authors have no conflicts of interest or financial disclosures to report.

#### 018.5 EXAMINING HPV PREVALENCE AND UPTAKE OF CERVICAL CANCER SCREENING AMONG HIV POSITIVE AND NEGATIVE WOMEN PARTICIPATING IN A PILOT RCT IN UGANDA COMPARING SELF-COLLECTION BASED HPV TESTING TO VIA

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**Introduction** With innovations in cervical cancer prevention, researchers must define best practices for cervical cancer screening in diverse populations and contexts. This pilot RCT compares the standard of care in most resource constrained settings, visual inspection with acetic acid (VIA), to self collected sampling for detection of high risk human papillomavirus (HR-HPV) DNA. We compared HPV prevalence and uptake of screening among women living with HIV (WHIV) and HIV negative (HIV-) women who participated in the trial.

**Methods** The pilot RCT was conducted between April and June 2014 when 500 women were recruited by community outreach workers in Kisenyi and completed a survey for demographic and risk factors including self-identified HIV status. Women were randomised to self-collected HR-HPV testing or VIA screening at the local health unit. Women who were HPV positive were referred for VIA. Women who tested positive at VIA were provided treatment with cryotherapy at the same visit or referred for colposcopy. Uptake rates of screening and HPV status in WHIV vs HIV- women were compared using Chi-square or Fisher's exact test.

**Results** Uptake of self-collected HR-HPV testing was 95.5% (21/22) in WHIV and 99.6% (226/227) in HIV- women ( $p = 0.17$ ). Among WHIV, 42.9% (9/21) were HPV positive compared to 28.3% (64/226) HIV- women ( $p = 0.25$ ). A greater proportion of WHIV were infected with HPV genotype 16 or 18 (28.6%, 6/21) than HIV- women (5.3%, 12/226) ( $p = 0.004$ ). All 9 WHIV who were HPV positive attended VIA follow up, compared to 24/64 HIV- women. In the VIA arm, 64.0% (16/25) WHIV attended screening compared to 46.7% (105/225) HIV- women ( $p = 0.23$ ).