

**Results** Totally 3,130 cases were recruited into the study. 54.6% were males, the first case had been reported in 1990, and the highest incident case had been reported in the year 2004 with 461 cases followed by 2005 (343), and 2006(302) respectively. The highest cumulative case had been reported from Mae Fah Luang Hospital (25.8%), followed by Mae Suai hospital (18.8%). 46.0% were Akha, 19.7% were Lahu, and 9.5% were Yao. 38.8% were 31–40 years old, followed by 21–30 years old (33.6%), and 41–50 years old (13.4%). 44.4% were agriculture, 32.0% were employee. 91.6% were infected by sexual intercourse, 5.7% were mother to child. 24.0% were receiving ARV, 30.7% were receiving OI treatment, and 9.5% were tested CD4 level. Male had higher of survival rate than female (p-value > 0.001), and male were younger than female at the age of infection (p-value > 0.001). There was statistically significant difference of mode of infection by tribe (p-value > 0.001).

**Conclusion** Specific health education programmes and empower them for using condom are needed to setting up for HIV/AIDS prevention and control among hill tribe people in Thailand.

### P3.220 INCIDENCE AND PREVALENCE OF HIV INFECTIONS AMONG FISHERMEN AROUND LAKE VICTORIA IN KISUMU KENYA

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**Background** Men with high-risk sexually behaviour are important drivers of HIV/STI infections in the general population. Prevention of HIV/STIs among such men could potentially reduce these infections especially among women - who bear the greatest HIV/STIs disease burden in sub Saharan Africa. We sought to understand immunovirology of HPV infections among fishermen. This evaluation highlights the rate of HIV infections in this population.

**Methods** Three hundred fishermen were recruited and followed up every 3 months for 1 year. HIV, syphilis serology, CD4/CD8 and complete blood count were evaluated and a demographic questionnaire administered. Data was analysed by SPSS ver18.

**Results** The 300 men recruited into this study had mean age of 28 years, 76% were married and 57% had only basic education. The mean for age of sexual debut and lifetime sexual partners was 15 years and 10 respectively. They had a modal sexual activity of 3 times/week and a mean of 3 rounds/sexual act. Sixty one (20%) had practised oral sex. Thirty six (12%) and 80 (27%) of men washed their genitals, before and after sex respectively. A significant number of men; 183 (61%)  $P < 0.01$  and 118 (39%)  $P < 0.05$ , never used condoms with their regular sexual partners and new sexual partners respectively. They had a mean CD4 and white blood cell (WBC) count of 830 cells/ml and  $5.6 \times 10^9/L$  of blood. Baseline HIV and syphilis prevalence was 23% and 9% respectively. The HIV incidence during the 1 year follow-up was 4.2%. Fishermen HIV burden was over 3 times the Kenyan national HIV prevalence of 7%.

**Conclusion** Fishermen in this context, comprise a young sexually high-risk, highly-migratory population with high HIV incidence and prevalence. Low condom use coupled with concurrent multiple sexual partnerships make them a potential key population who require targeted prevention strategies to reduce HIV/STI infections and transmission.

### P3.221 ORAL AND INJECTABLE HORMONAL CONTRACEPTION DECREASE RISK OF BACTERIAL VAGINOSIS BUT ORAL CONTRACEPTION MAY INCREASE RISK OF VAGINAL CANDIDIASIS: A SYSTEMATIC REVIEW OF PUBLISHED AND UNPUBLISHED DATA

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**Background** A recent World Health Organization (WHO) technical consultation concluded that combined oral contraception (COC) does not increase HIV acquisition in women, but the evidence for depot medroxyprogesterone acetate (DMPA) is conflicting. Significant evidence suggests that bacterial vaginosis (BV) and vaginal candidiasis, both representing an 'unhealthy' vaginal microbiome, increase HIV acquisition in women.

**Methods** We conducted a systematic review using the PRISMA 2009 guidelines, and re-analysed the Hormonal Contraception and HIV Acquisition (HC-HIV) study, to evaluate the effect of HC use on the vaginal microbiome. Vaginal microbiome outcomes included BV by Nugent scoring, vaginal candidiasis by culture or KOH wet mount, and microbiome compositions as characterised by molecular techniques.

**Results** Our review of 36 eligible studies found that COC and DMPA use reduce BV by 10–20% and 18–30%, respectively. The HC-HIV data showed that COC and DMPA use also reduce intermediate microbiota (Nugent score of 4–6) by 11% for each. In contrast, COC use (but not DMPA use) may increase vaginal candidiasis; 7 of 12 studies reported a statistically significant increase in vaginal candidiasis, 2 reported a positive association approaching significance, 2 reported no association, and one reported a statistically significant reduction. Evidence for a reduction of BV risk in HC users is much stronger than evidence for a potential increased candidiasis risk in COC users: the quality of the BV studies was higher and the results more consistent. Molecular vaginal microbiome studies (n = 4) confirm that high oestrogen levels favour a vaginal microbiome composition dominated by 'healthy' *Lactobacillus* species; the effects of progesterone on the microbiome are less clear.

**Conclusions** The hypothesis that DMPA use may increase HIV risk by increasing BV or vaginal candidiasis risk is not supported by the evidence. COC use may predispose for vaginal candidiasis, but is not believed to be associated with increased HIV acquisition

### P3.222 HIGH RISK HUMAN PAPILLOMAVIRUS VIRAL LOAD AND PERSISTENCE AMONG HIV-NEGATIVE AND HIV-POSITIVE MEN

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**Background** High-risk human papillomavirus (HR-HPV) viral load is associated with transmission and persistence in women. It is unknown whether viral load is associated with HR-HPV persistence in HIV-negative or HIV-positive men.

**Methods** 703 HIV-negative and 233 HIV-positive heterosexual men participated in a male circumcision trial in Rakai, Uganda. Penile swabs were tested at enrollment and 6, 12 and 24 months for HR-HPV using the Roche HPV Linear Array, which provides a semi-quantitative measure of HPV shedding by hybridization band intensity (graded:1–4). Prevalence risk ratios (PRR) were used to estimate the association between HR-HPV viral load and persistent detection of type-specific HR-HPV infection.