SYPHILIS TESTING PRACTICES IN THE AMERICAS: SPECIFIC VAGINAL BACTERIA ARE ASSOCIATED WITH INCIDENT TRICHOMONAS VAGINALIS INFECTION IN WOMEN

004.1

**Introduction**

The ISEAN-Hivos Program (IHP) is a regional Global Fund AIDS grant focused on community systems strengthening (CSS) among males having sex with males (MSM) and transgender (TG) organisations in Indonesia, Malaysia, Philippines and Timor Leste. The program in the Philippines since 2011 has provided OD-focused capacity building trainings to MSM/TG CBOs. This includes program/financial management, monitoring and evaluation, among others.

**Methods**

The capacity building series has contributed to strengthening the CBOs organisational systems/procedures. This is evident for more than 25 CBOs whose proposals on innovative HIV, SOGIE and rights-based interventions were granted by IHP through small grants amounting to PHP 2,500,000. Interventions varied from conducting HIV/SOGIE-related awareness campaigns; using theatre as medium for LGBT awareness; establishing a male wellness centre, mobile testing van and BCC-awareness mobile, that contributed to community-led peer education and HIV counselling and testing (HCT) services.

**Results**

Two of the most noteworthy beneficiaries are LoveYourself and Cebulpus. LoveYourself’s proposal for HIV awareness IEC video (‘Fly Love Yourself’) and BCC-awareness mobile (‘LoveCar’) has contributed in promoting testing services in their community clinics. For Cebulpus, their mobile testing vans and male wellness centre has increased the number of MSM/TG clients reached by their HIV prevention services including HCT. Both have contributed to more than 50% of the total number of people undergoing HCT in Manila and Cebu, respectively. This has also translated into sustainable partnerships with their local government units and private foundations.

**Conclusion**

This OD-approach model on capacity building for CBOs should continuously be monitored, evaluated, and foster linkage with local government partners and/or private institutions. This CSS intervention has a long-term perspective because it is geared towards the sustainable development of CBOs to continuously advocate and implement community-led HIV, SOGIE and rights-based intervention.

**Oral Presentation Session 4**

Women’s Health and Prevention

004.1

**SPECIFIC VAGINAL BACTERIA ARE ASSOCIATED WITH INCIDENT TRICHOMONAS VAGINALIS INFECTION IN WOMEN**

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**Introduction**

We tested the hypothesis that vaginal microbiota influence women’s susceptibility to *T. vaginalis* (TV) acquisition.

**Methods**

We conducted a nested case-control study of 25 episodes of TV infection using vaginal samples collected 30–60 days prior to infection in 18 HIV-negative women and 50 incidence-density matched controls. Broad-range 16S rRNA gene PCR was used to measure total vaginal bacterial load. Deep sequencing was applied to 18 first episodes of TV infection using vaginal samples collected 30 days prior to TV infection. TV-positive and -negative samples were matched by age, race, and trimester. TV load was calculated using the relative abundance of the TV 16S rRNA gene using a matched cohort design. The influence of bacterial species on TV load was assessed using linear mixed-effects models. **Results**

TV load was positively associated with TV load. The association between Shannon and Chao-1 indices and TV acquisition were evaluated using logistic regression. Generalised estimating equations with logit link
were used to evaluate associations between TV acquisition, detection of bacterial species, and total vaginal bacterial load.

**Results** There was no association between total vaginal bacterial load, species diversity, or richness, and likelihood of TV acquisition. Detection of *S. sanguinogens* (odds ratio [OR] 4.00, 95% CI 1.19–13.50) and *P. amnii* (OR 3.45, 95% CI 1.29–9.24) were both associated with TV acquisition. *M. inodificus* was also associated with TV acquisition (OR 2.47, 95% CI 0.88–6.93), although not significantly. Compared to women with none of these species, women with all three bacterial species had substantially higher likelihood of TV acquisition (none-reference category; one-OR 1.57, 95% CI 0.21–11.86; two-OR 4.50, 95% CI 0.93–21.76; three-OR 5.50, 95% CI 1.15–26.40). There was no association with the other three bacterial species.

**Conclusion** The presence of three bacterial species commonly associated with BV may increase susceptibility to TV infection. Elimination of these bacteria could be explored as an approach to decrease women’s risk of trichomoniasis.

**004.2 EFFECTS OF OVER-THE-COUNTER LACTIC ACID-CONTAINING VAGINAL DOUCHING PRODUCTS ON THE VAGINAL MICROBIOTA**

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**Introduction** Of female visitors to the STI clinic in Amsterdam, 31% report use of vaginal cleansing products (including douches). Vaginal douching may negatively affect vaginal microbiota compositions (VM). We report the effect of intra-vaginal douching on the VM in a prospective study.

**Methods** Through advertisements, we recruited 25 healthy women, aged 18–36 years, from 2015–2016. Participants were followed over 3 menstrual cycles and were instructed to use an intra-vaginal lactic-acid-containing douche 3 times a week during the 2nd cycle. Participants self-collected a median of 68 [IQR: 64–68] vaginal swabs. Baseline characteristics were collected through questionnaires. All participants kept a daily diary in which they reported douching, menstruation, sexual activity, etc. VM were assessed by 16S rRNA (V3-V4 region) sequencing. Associations between douching and VM were assessed by multivariable logistic regression, using generalised estimating equations to account for multiple observations within the same individual.

**Results** As of December 2016, a median of 42 [IQR:40–44] vaginal swabs from 10/25 women were analysed. These 10 women had a median age of 25 years [IQR: 21.8–29.3], 9 women were Dutch-Caucasian, 9 used hormonal contraceptives and all were highly educated. At baseline, 8 women had lactobacilli-dominated VM (*Lactobacillus crispatus* (n=6), *L. iners* (n=1) or *L. iners/L. jensenii* (n=1)) and 2 women had poly-bacterial *Gardnerella vaginalis*-containing VM (GV-VM). The latter 2 women continued to have GV-VM throughout the study period. The VMs of 2 women, dominated either by *L. crispatus* or *L. iners* at baseline, shifted to GV-VM during the 2nd cycle, which persisted in the 3rd cycle. Having GV-VM was more likely in the 2nd and 3rd cycle, compared to the 1st cycle, after adjusting for sex and menses (odds ratio [OR] =1.7 (95% CI: 0.9–3.1) and OR≈2.1 (95% CI: 0.7–6.1), respectively), though not statistically significantly so.

**Conclusion** Our interim analyses suggest that regular intra-vaginal douching may promote a shift from lactobacilli-dominated VM to GV-VM.

**004.3 UPTAKE AND ACCEPTABILITY OF CONTRACEPTIVE VAGINAL RING AMONG WOMEN WITH BACTERIAL VAGINOSIS IN KENYA**

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**Introduction** Innovative approaches for delivery of hormonal contraception and antiretrovirals are urgently needed. Intra-vaginal vaginal rings are a promising strategy since they obviate the need for daily dosing, a challenge in some HIV prevention studies in sub-Saharan Africa (SSA). Changes in the vaginal microbiome associated with increased risk of bacterial vaginosis (BV) are a risk for HIV acquisition and transmission, as is pregnancy. Therefore, hormonal interventions that prevent unintended pregnancies (UIP) and promote vaginal health could reduce this risk. However, there is little data on acceptability of intravaginal rings in SSA countries. We assessed uptake and acceptability of a contraceptive vaginal ring (CVR) among women with BV.

**Methods** We conducted a prospective study among women aged 18–40 years in Thika, Kenya. Participants were recruited from community venues and public health facilities. If interested and eligible, they were randomised to cyclical or continuous use of the CVR at month 1 visit and were followed up monthly for 7 months. At follow-up visits behavioural data was obtained and pregnancy testing performed. We used univariate methods to determine CVR uptake and survival methods to determine time to incident pregnancy.

**Results** Between April to December 2016, 363 women screened, 101 enrolled and 79 (78.2%) initiated CVR at randomization visit, 12 (11.9%) did not return for randomization and were considered lost to follow-up, 7 (6.9%) expressly refused to use CVR, and 3 (3.0%) terminated due to investigator’s decision or other reasons. Reasons for refusal included lack of a stable partner, need to consult partners, and preference for other contraceptive methods. We observed 4 incident pregnancies, at an incidence of 18.7 per 100 person-years (95% CI 5.1–48.0).

**Conclusions** Contraceptive vaginal ring was highly acceptable among women with BV with few incident pregnancies, suggesting that combination prevention with antiretrovirals using this delivery system should be feasible for this population.